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February 1992

Timber Sale Program Annual Report

Pacific Southwest Region
Fiscal Year 1991

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NATIONAL FOREST TIMBER HARVESTS EARN $72 MILLION IN CALIFORNIA

SAN FRANCISCO March 13--Timber harvests from national forests in California put $72 million into the National Treasury last year, according to Pacific Southwest Regional Forester Ron Stewart of USDA's Forest Service.

Gross revenues before expenses were $192 million in fiscal year 1991, from a harvest of 1.3 billion board feet, Stewart said. The region's FY 1991 net revenue of $72 million was down $56 million from the FY 1990 level, because the timber harvest was 410 million board feet less in FY 1991.

Nationwide, revenues from timber sales on national forests exceeded costs by $472 million in fiscal year 1991. That was based on $1.2 billion in gross revenues, from the harvest of 8.5 billion board feet of timber.

The regional and national figures were released today in the 1991 Timber Sale Program Annual Report, which is compiled every year through the agency's Timber Sale Program Information Reporting System (TSPIRS). Out of the 18 national forests in California, 13 have commercial timber sale programs. Of those 13, revenues exceeded costs on 10 national forests.

"In California, the FY 1991 timber harvest supported an estimated 14,327 jobs in local communities, generating almost $600 million in total income and nearly $87 million in federal income taxes returned to the Treasury," Stewart said. The nationwide program supported an estimated 103,000 local jobs, which generated approximately $4.7 billion in income and $713 million in federal income taxes.

The region's timber harvests resulted in payments of $52 million to states and counties, for use by local school systems and highway departments. Agency officials estimate the long-term economic value of the FY 1991 harvest in California at $158.5 million.

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The 1991 TSPIRS report has been improved based on suggestions made by the General Accounting Office and an independent accounting firm, Robertson said. The TSPIRS system uses the same rules of accounting used by virtually every corporation in the country.

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Timber Sale Program Information Reporting System - TSPIRS FY 1991 Report

- In FY 1991, the harvest of 8.5 billion board feet of timber from all National Forests produced $1.158 billion in gross revenue, which exceeded operating expenses by $472.3 million. In addition, payments of $301.4 million to States and Counties for roads and school programs were distributed as a result of the revenue earnings. This information is tracked through the Timber Sale Program Information Reporting System (TSPIRS).

- The estimated future economic value of the FY 1991 harvest exceeds related costs by $892 million. The future effects on all resources that can be assigned a dollar value or cost are included in this calculation.

- An estimated 103 thousand jobs were supported by the FY 1991 National Forest timber harvest, resulting in estimated job related income of $4.7 billion. This income generated nearly $713 million in federal income tax.

- TSPIRS was modified in FY 1991 to more closely conform to Generally Accepted Accounting Principles in accordance with recent General Accounting Office and external audits of the system. Prior year information from FY's 1989 and 1990 was recalculated to conform to the new procedures as well.

- Numerous present and future benefits which cannot be assigned a dollar value are also generated by timber sales. The FY 1991 Timber Sale Program Report (National Summary) describes how timber sales achieve non-timber objectives.

- In FY 1991, there were 51 out of 120 National Forests with revenues greater than expenditures. Of the total harvest, 77 percent (6.5 billion board feet) came from these 51 forests. On a Regional basis, timber sale programs on 5 out of 9 Regions had revenues greater than expenditures.

- Information in TSPIRS is invaluable in our efforts to improve the cost efficiency of timber sale programs on National Forests. Through examination of this information, we are initiating efforts to improve the program efficiency on each forest. It is also useful in the verification of Forest Plan data and in updating plans as appropriate.

United States Department of Agriculture | Forest Service | Pacific Southwest Region | Regional Office 630 Sansome Street San Francisco, CA 94111

Reply To: 2400

Date: MAR 17 1992

Dear National Forest User:

Enclosed is the FY 1991 Timber Sale Program Annual Report for the Pacific Southwest Region. I am pleased to report that timber sale programs on the National Forests in California put $71.8 million in the National treasury last year. $52.2 million was provided to California's counties and schools. Over 1.3 billion board feet of timber was harvested, down 410 million board feet from the FY 1990 harvest. This timber sale program provided 14,327 jobs in local communities, generated almost $600 million in total income, and nearly $87 million in federal income taxes returned to the Treasury.

Fiscal Year 1991 was a year of change for National Forest timber sale programs and for the Timber Sale Program Information Reporting System (TSPIRS). Along with providing financial and economic information, this year's Timber Sale Program Annual Report highlights changes to TSPIRS and Forest Service policy.

The Forest Service asked the independent accounting firm of Brown & Company to audit TSPIRS to determine if our procedures were in conformance with generally accepted accounting principles. In addition, Congress' General Accounting Office recently completed an audit of the FY 1988 Forest Service financial statements. Both of these audits provided recommendations that have been incorporated into the FY 1991 reports.

Each year, the TSPIRS report provides a "snapshot in time" of the integrated timber management programs as implemented through the National Forest Land and Resource Management Plans. I encourage you to study and track these reports over time. In doing so, you will see the broad range of resource benefits produced by the timber sale program and how this information affects our management of your National Forests.

Sincerely,

Ronald E. Stewart

RONALD E. STEWART
Regional Forester

Enclosure

TIMBER SALE PROGRAM
ANNUAL REPORT

FISCAL YEAR 1991

USDA FOREST SERVICE
PACIFIC SOUTHWEST REGION

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

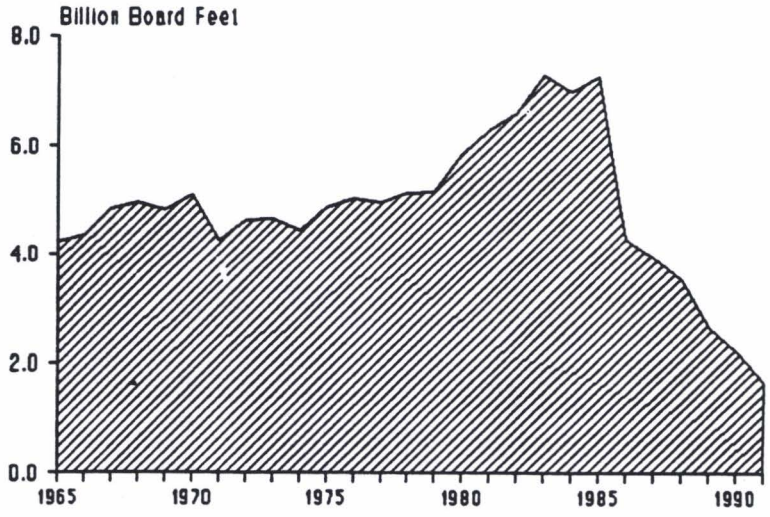
EXECUTIVE SUMMARY

In Fiscal Year 1991, the harvest of 1,303 million board feet of timber (MMBF) and related forest products produced $191.8 million in gross income and $71.8 million in net income (before payments to states). Of this, $52.2 million was returned to the state and counties for schools and roads. FY 1991 net income (before payments to States) was down $56.0 million from the FY 1990 level because timber harvest from National Forests in California was 410 million board foot less.

The Pacific Southwest Region sold 881 million board feet of timber during Fiscal Year (FY) 1991. An additional 142 million board feet was prepared, but could not be offered for sale for various reasons. The most significant reason was Federal District Court Judge Dwyer's injunction prohibiting advertising of timber sales in suitable habitat for northern spotted owls (a threatened species) until an Environmental Impact Statement was prepared.

The total volume of National Forest timber under contract continued to decrease during Fiscal Year 1991. At the end of FY 1989, 2,671 MMBF of timber was under contract. By the end of FY 1990, this amount dropped to 2,241 MMBF. Total volume under contract at the end of FY 1991 was 1,665 MMBF (Figure 1).

Figure 1--Volume under contract, Pacific Southwest Region, 1965-1991



Revenues per thousand board feet rose during FY 1991. However, unit costs for preparing

sales rose at a greater rate and unit net revenues were lower than in FY 1990.

The FY 1991 timber harvest supported an estimated 14,327 jobs in local communities. Those jobs generated approximately $599 million in total income and $86.8 million in income taxes was returned to the Federal Treasury.

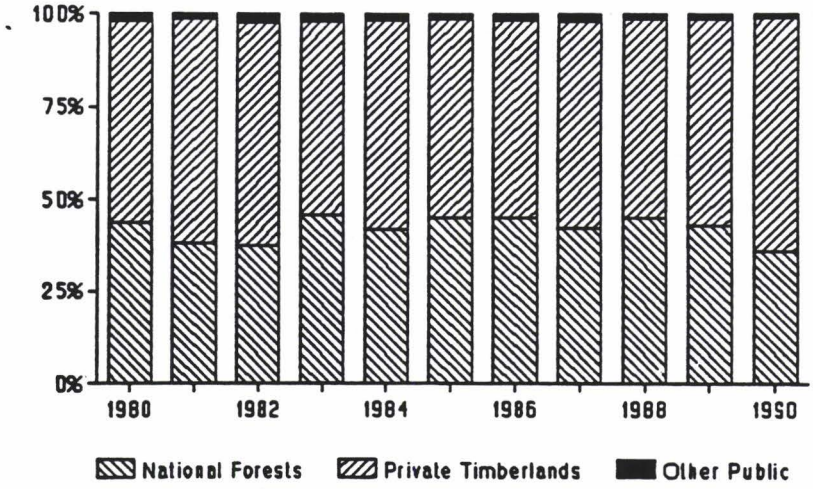
From a long-term economic perspective, the present net value of the FY 1991 timber harvest, including all resources such as wildlife and range, is estimated at $158.5 million. The present net value of the timber resource is $111.5 million. These figures represent the long-term economic value of the FY 1991 harvest in 1991 dollars utilizing a four percent discount rate.

FY 1991 Timber Supply Situation

Historically, about 40 percent of timber manufactured in California has been from the National Forests (Figure 2). Most sawmills in California rely heavily on the National Forests for their timber supply. A stable timber supply includes two or more years of volume under contract. Most mills had less than one year's volume of National Forest timber under contract at the end of FY 1991.

The 1991 National Forest timber harvest of 1,303 MMBF in California was 15 percent of the total timber harvested from all National Forest Systems lands in the United States. Total National harvest was 8,468 million board feet, down 19 percent from the 1990 level. The Region 5 harvest declined 24 percent from the 1990 harvest.

Figure 2--California timber harvest by ownership, 1980-1990



Although 1991 total harvest data is not available, estimated harvest is about 3 billion board feet. In FY 1990, National Forest timber accounted for 36 percent of the total timber harvest in California

(Figure 2). The remaining 1990 timber harvested came from private and other public lands. The total harvest from all ownerships in California declined 10 percent, from 4,722 million board feet in 1989 to 4,251 million board feet in 1990. No timber from California National Forests was exported in FY 1991.

Future Expectations

In Fiscal Year 1992, the Region expects to sell about one billion board feet of timber. This is a significant decrease in timber volumes from historic sale levels of 1.5 to 1.8 billion board feet. In FY 1991, the greatest single effect on the timber sale program resulted from protecting the habitat of the northern and California spotted owls. The consequence of providing increased protection and enhancement of non-timber resources on National Forest lands will be changes in the timber sale program. Our future expectations include:

A. The implementation of the National Forest's Land and Resource Management Plans:

- Forests will emphasize ecosystem-based, integrated resource projects.
- Prescriptions for timberland treatments will be designed to meet long-term integrated resource objectives on a landscape basis (an area of approximately 80,000 acres.)
- Less timber may be sold and harvested, reducing employment in logging, sawmilling, and associated service industries.
- Reduced revenues to the Federal, State, and County governments from National Forest timber sales.
- Costs of timber sale planning, preparation, and administration may increase because of the more complex land treatment prescriptions.

B. National Forest regeneration practices:

- Use of clearcutting as a silvicultural prescription will remain low. (The Pacific Southwest Region has reduced clearcutting by 75 percent from 4 years ago.)
- Mixed tree species will be planted to replicate the natural timber stands of the site.
- Natural regeneration will continue to be used where appropriate.

- Forests will continue to leave hardwoods for wildlife habitat and good quality coniferous trees in regeneration units.

C. National Forest timber sales:

- Emphasis on economic efficiency of timber sales will continue, resulting in changes in operations and accounting practices.
- Tree measurement, instead of scaling, will be used as the basis for payment for most timber sales.
- Transaction evidence appraisal methods will start to replace residual appraisal methods
- Cubic foot measurement will replace Scribner board foot measurement as the primary unit of measure.
- Strong tree and log accountability, and prevention of timber theft, will be emphasized.

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

TABLE OF CONTENTS

Page

Executive Summary i
FY 1991 Timber Situation ii
Future Expectations iii

List of Tables v

List of Figures vi

Introduction 1

Financial Information 3
Changes to the *Statement of Revenues and Expenses* 14

Economic Information 15

Employment and Program Level Information 18

Below-Cost Timber Sale Programs 23

Cost Efficiency Action Plan 23

Glossary 25

Appendix A (*Financial Information by National Forest*) A-1
Appendix B (*Unit Value Information by National Forest*) B-1
Appendix C (*Economic Information by National Forest*) C-1
Appendix D (*Employment & Program Information by National Forest*) . . D-1

Region 5 National Forest Map . . . . . Inside Back Cover

LIST OF TABLES

Page

Table 1--Statement of Timber Sale Revenues and Expenses 4

Table 2--Timber Sale Revenue and Expenses, Unit Values Per MBF 5

Table 3--Direct and Indirect Expenses and Cost Per MBF of the Timber Sale Program, 1991 9

Table 4--Ranking of the National Forests by Total Revenue, Gross Gain/Loss, and Cost Per MBF 12

Table 5--TSPIRS Economic Account 17

Table 6--TSPIRS Employment, Income and Program Account 20

LIST OF FIGURES

Page

Figure 1--Volume under contract, Pacific Southwest Region, 1965-1991 i

Figure 2--California timber harvest by ownership, 1980-1990 ii

Figure 3--Revenue sources for the Timber Sale Program, 1990 and 1991 . 5

Figure 4--Gross gain or loss in income, by National Forest, 1991 6

Figure 5--Expenses, net income, and payments to States, 1989-1991 . . . 7

Figure 6--Timber sale direct and indirect expenses, 1991 8

Figure 7--Unit revenue, unit cost, and unit gross income, 1989-1991 . . 11

Figure 8--Revenue, expenses and payments to States, 1989-1991 14

Figure 9--Timber benefits to the State, 1987-1991 19

Figure 10--Annual timber offered, sold and awarded, and harvested, 1987-1991 21

Figure 11--Acres harvested by silvicultural prescription, 1987-1991 . . . 22

Figure 12--Timber stand improvement and reforestation in the Pacific Southwest Region, 1987-1991 23

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

INTRODUCTION

This report summarizes information about the Fiscal Year (FY) 1991 timber sale program of the Forest Service's Pacific Southwest Region (Region 5). Financial and economic activity generated by the sale of timber from National Forests in California is monitored through the Timber Sale Program Information Reporting System, commonly referred to as "TSPIRS". TSPIRS was first tested in Region 5 on the Tahoe National Forest in 1987. TSPIRS has been officially operational statewide since 1989. Since then, TSPIRS has been modified to respond to changing information needs and specific audit recommendations for system improvement.

TSPIRS financial reports are designed to conform to generally accepted accounting principles (GAAP) and to the Title II of the General Accounting Office Policies and Procedures Manual for Guidance of Federal Agencies. As such, the income statement included in TSPIRS provides the best means of indicating whether the agency made or lost money on the sale of National Forest timber. TSPIRS economic reports are compiled using customary investment analysis procedures to weigh the long-term economic benefits of the fiscal year timber harvest against the investments made. In addition to financial and economic information, TSPIRS provides estimates of local area jobs supported by National Forest timber harvest along with related program information, such as the amount of timber harvested and the acres of land reforested.

Resource programs are managed on each National Forest through the guidance provided by the Land and Resource Management Plans (Forest Plans). Each Forest Plan is developed with public involvement to provide for the sustainability of forest resources, including timber, at levels compatible with the management of other resources, such as water, wildlife, and recreation.

Several tables of information covering differing aspects of the timber sale program in California are displayed. These include:

- A *Statement of Timber Sale Revenues and Expenses* displaying cost accounting information in an income statement (Table 1). Total revenues and expenses, and gains or losses before and after payments to the State

arising from the National Forest's timber program for 1989, 1990 and 1991 are given. Amounts paid to the State and total volumes harvested are also included. Appendix A, *Financial Information by National Forest* provides detailed information for each National Forest in Region 5.

- A companion table titled *Timber Sale Revenues and Expenses, Unit Values Per MBF* is also included (Table 2). This table displays unit values for the Region, using the information presented in the *Statement of Timber Sale Revenues and Expenses.* Appendix B, *Unit Value Information by National Forest*, provides the equivalent information for the National Forests in California.

- *Direct and Indirect Expenses and Costs Per MBF of the Timber Sale Program, 1991* (Table 3) provides detailed information on direct and indirect expenses and a comparison between the Region and Forest Service-wide unit costs.

- *Ranking of the National Forests by Total Revenue, Gross Gain/Loss, and Cost Per MBF* compares the cost effectiveness of the 18 National Forests in California during 1990 and 1991 (Table 4).

- The *TSPIRS Economic Account* (Table 5) provides discounted estimated future benefits and costs from the acres harvested in FY 1991. This table represents both current and future years benefits and costs associated with the current years' harvest. Also included is 1989 and 1990 information to show estimated effects over time on the economic values of other resources.

- The *TSPIRS Employment, Income and Program Account* displays the contributions of the timber program to local economies (Table 6). This table also relates information concerning many accomplishments of the Regional timber sale program. Information on 1989 and 1990 is included for comparison.

- A *Glossary* is provided to clarify terms used in this report.

Collectively, these tables and the supporting information provide the reader with a comprehensive view of the financial and economic benefits and costs of managing the timber program in the Pacific Southwest Region during FY 1991.

Prior fiscal years information is included to provide perspective. It should be noted that figures presented for prior years essentially provide a snapshot in time. Because inflation is excluded, the financial information for successive years should not be considered strictly comparable.

FINANCIAL INFORMATION

The *Statement of Timber Sale Revenues and Expenses* presents cost accounting information in an income statement format for the fiscal year which ended September 30, 1991 (FY 1991). Revenues and expenses from individual National Forests and the Regional Office in California are summarized in Table 1. Detailed information for each National Forest and the Regional Office is presented in Appendix A, *Financial Information by National Forest*.

Information for Fiscal Years 1989, 1990, and 1991 is provided in Table 1. The TSPIRS financial reports for the prior years were restated to reflect FY 1991 TSPIRS accounting changes. As a result of the restatement, the years 1989 through 1991 are comparable on an accounting basis. The FY 1989 and 1990 dollar amounts were not adjusted for inflation. Financial information given in FY's 1989 and 1990 Timber Sale Program Annual Reports should no longer be used.

This income statement includes revenues earned and expenses accrued as a result of all National Forest timber sale operations in California during FY 1991. Revenues and expenses from the sale of other forest products, such as Christmas trees, are also included. The income statement includes both direct and indirect expenses associated with the preparation, sale, and harvest of timber from National Forests. Further detail for the Forests is displayed in Appendix A. This income statement does not reflect the cash flow associated with timber harvest in FY 1991. The Forest Service currently does not produce either a TSPIRS cash flow statement or a TSPIRS balance sheet.

Unit values for the information in Table 1 are displayed in Table 2. Table 2 values were calculated by dividing the financial data given in Table 1 by the total volume harvested for that year. Unit values can be used to relate expenses incurred with the total volume of timber harvested on a per thousand board feet (MBF) basis.

Over the past three years, the average price per thousand board feet paid for timber sales has increased (Table 2). This higher unit value per MBF harvested reflects strong competition for National Forest timber. This trend is expected to continue. One cause of timber scarcity is the general uncertainty over future timber supplies.

Total revenues received (Table 1) represent several sources of revenue. The largest source is derived from timber purchasers as they pay for harvested timber. Purchaser Road Credits Established is a second source of revenues. These credits represent expenses timber purchasers incur to construct or reconstruct forest roads for National Forest Management. Because purchaser road credits are used by

TABLE 1--STATEMENT OF TIMBER SALE REVENUES AND EXPENSES

for fiscal years 1989, 1990[1/], and 1991

	1989	1990	1991
		Thousand Dollars	
Revenues			
Timber Sale Receipts	232,398	216,922	168,177
Purchaser Road Credits	14,499	10,520	9,026
Associated Charges	18,902	18,285	14,347
Interest and Penalties	484	409,559	223
Total Revenues	266,283	245,669	191,773
Expenses			
Direct Expenses			
Timber Sale Direct Expenses	94,927	93,257	97,004
Timber Program Direct Expenses	18,126	13,124	12,338
Total Direct Expenses	113,053	106,381	109,342
Indirect Expenses			
Timber Sale Indirect Expenses	N/A	N/A	273
Timber Program Indirect Expenses	6,614	6,824	10,357
Total Indirect Expenses	9,174	9,823	10,630
Total Expenses	122,627	116,204	119,972
Gain/Loss Before Payments to States	143,997	127,799	71,801
Payments to States	62.950	59,737	52,176
Net Income from Timber Sale Program	81,047	68,062	19,625
Timber Volume Harvested (*MMBF*)	1,982	1,713	1,303

[1/]Fiscal years 1989 and 1990 are based upon restatement of the original TSPIRS data. Restatement corrects for accounting changes in the FY 1991 report, but does not include inflation.

Figure 3--Revenue sources for the Timber Sale Program, 1990 and 1991

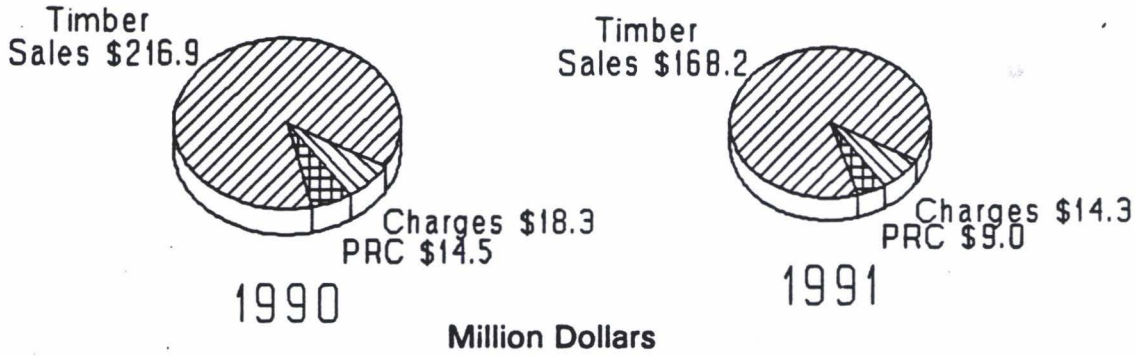


TABLE 2--TIMBER SALE REVENUES AND EXPENSES, UNIT VALUES PER MBF[1/]

for fiscal years 1989, 1990, and 1991

	1989	1990	1991
		Dollars per MBF	
Revenues	134.35	143.41	147.18
Expenses			
Direct Expenses	57.04	62.10	83.92
Indirect Expenses	4.63	5.73	8.16
Total Expenses	61.87	67.84	92.07
Gain/Loss Before Payments to States	72.65	74.61	55.10
Payments to States	31.76	34.87	40.04
Net Income from Timber Sale Program	40.89	39.73	15.06

[1/]Unit values were calculated by dividing total account dollars (Table 1) by the volume harvested (MBF) for that year.

purchasers to offset charges for timber, they are included with revenues received. Purchaser Road Credits Established decreased in 1991. Fewer miles of roads were constructed and reconstructed (Figure 3.)

Associated Charges are a third source of revenues and consist primarily of funds collected for timber sale brush disposal purposes and other cooperative receipts. Interest and penalties comprise the final revenue source. Less volume was harvested and lower revenues were realized than in the previous two years. Figure 3 displays the various sources of revenue for FY 1990 and 1991.

Appendix A displays the contribution to net revenue from each National Forest in Region 5. The FY 1991 gross gain or loss for each National Forest is displayed in Figure 4. Ten of the 18 National Forests produced $94.1 million in revenues in excess of costs before payments to the State were made.

Of the eight National Forests showing a gross loss in income, five are considered non-timber forests (Angeles, Cleveland, Los Padres, San Bernardino and the Lake Tahoe Basin Management Unit.) Together, the eight Forests posted a total of $4.8 million in gross losses.

Figure 4--Gross gain or loss in income, by National Forest, 1991.

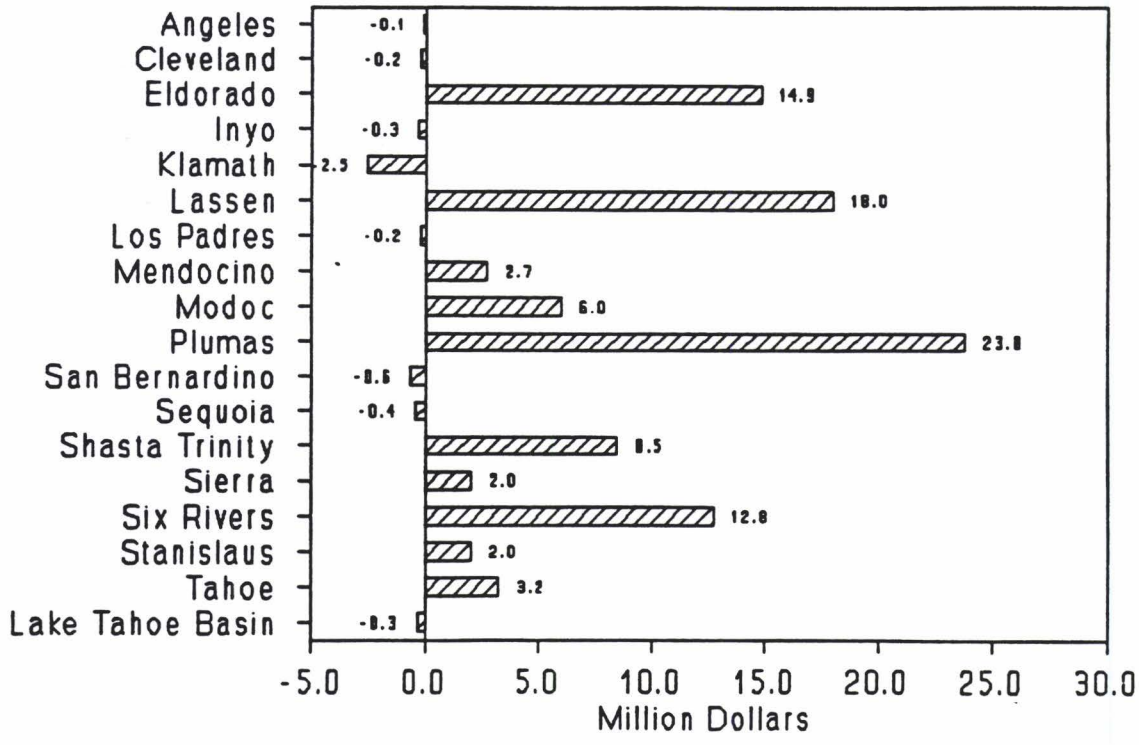
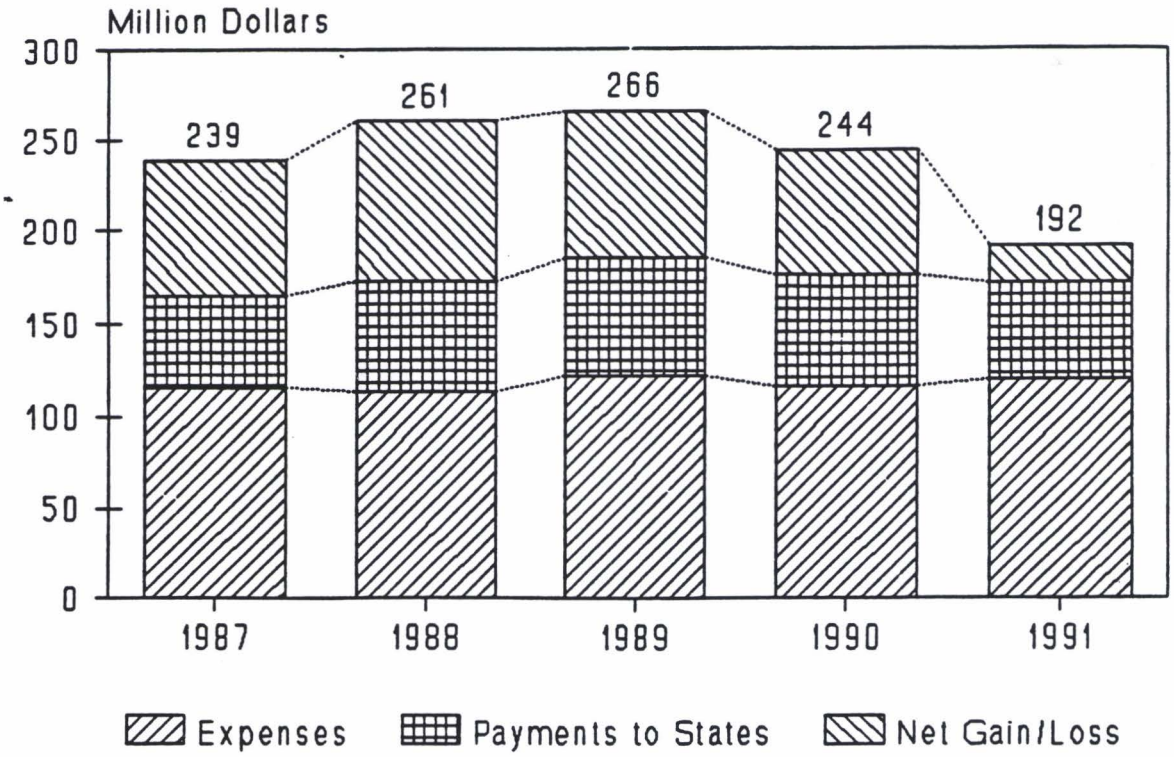


Figure 5--Expenses, net income, and payments to States, 1989-1991



Total timber expenses were higher in 1991 than in 1990, with an increase of $24.23 per MBF in unit costs (Table 2). Deducting expenses incurred from revenues received, a gross gain of $71.8 million dollars ($55.10/MBF) was realized.

Figure 5 provides a comparison of regional revenue and gain/loss before payment to States over time. Figure 5 shows the distribution of gross revenue by expenses, payments to States, and net income from the timber sale program.

Comparison of the Region-wide unit costs with the Forest Service-wide unit costs shows that the Pacific Southwest Region is more cost efficient in managing the timber program direct expenses and timber sale indirect expenses. Total timber expenses for the Region in 1991 were $92.04 per MBF, while the Forest Service-wide unit cost was $80.94, a 13.7 percent difference.

Timber Sale expenses represent the single largest expense category (Table 3). These direct and indirect expenses are associated with silvicultural exams, timber sale planning, actual timber sale preparation expenses, sale administration, and other resource support costs. Together, these expenses

accounted for 81 percent of total expenses for 1991. Timber Sale direct and indirect expenses and associated unit values are displayed in Table 3 and in Figure 6.

Other expenses are represented by Annual Expenses, the Growth Activity Pool Allowances, and Facility Depreciation expenses. Annual expenses are those incurred for sale administration, planning, appeals and litigation, and general administration of the yearly sale program. Growth Activity Pool Allowances include expenses incurred for managing timber in the growth stage of its management cycle. Facility Depreciation expenses are calculated as appropriate depreciation charges related to facilities used primarily to support the Forest's timber program.

As expenses have continued to rise, the gain/loss before payments to State continued to decline disproportionately to revenue. Comparison of unit revenue, unit expenses and the unit gross gain/loss over the last three years (Figure 7) shows that expenses have increased at a faster rate than has revenue, especially in 1991, resulting in much lower gross income.

Figure 6--Timber Sale direct and indirect expenses, 1991

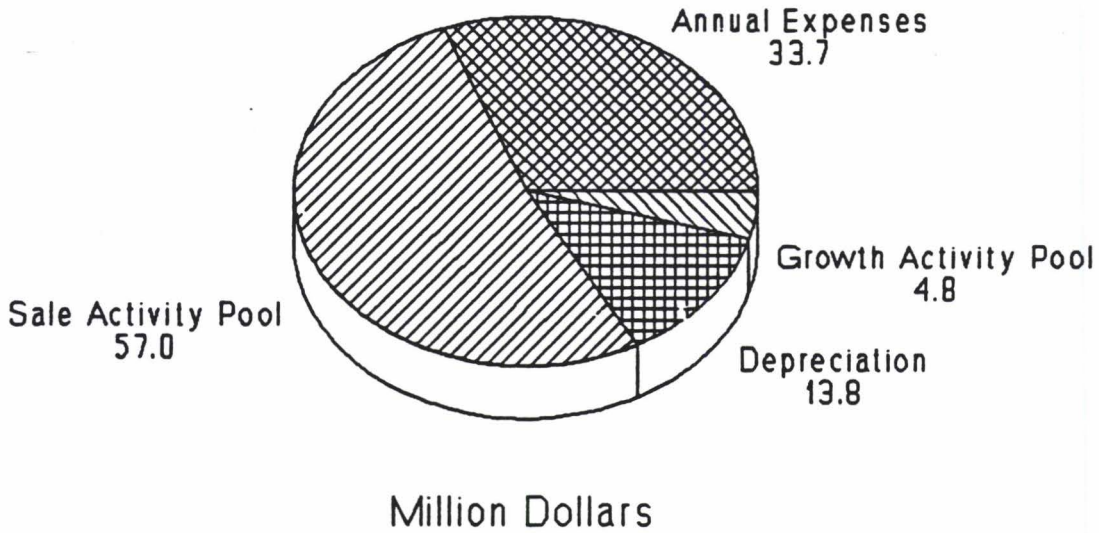


TABLE 3--DIRECT AND INDIRECT EXPENSES AND COST PER MBF OF THE TIMBER SALE PROGRAM

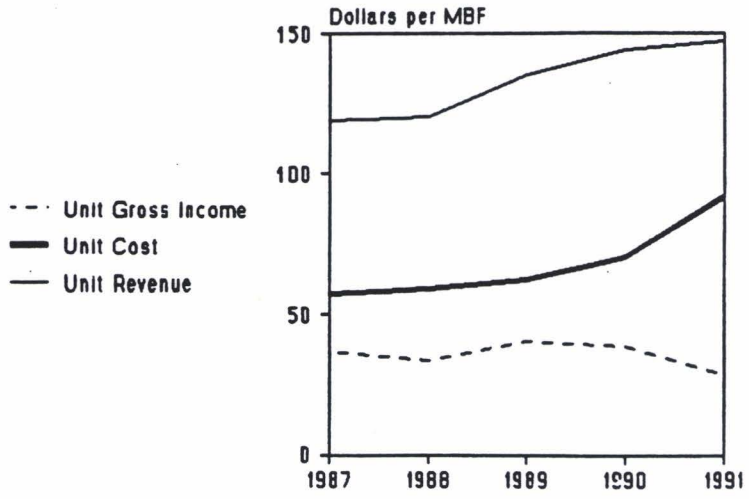
for fiscal year 1991

Account Description	Expense	Region-wide Cost Ratio	Service-wide Cost Ratio
	Thousand Dollars	*Cost Per MBF*	*Cost Per MBF*
Direct Expenses			
Timber Sale Direct Expenses			
Annual Expenses			
Harvest Administration	15,516	11.91	9.11
General Administration-Sales	13,941	10.70	9.81
Sale Activity Pool			
Sale Preparation	26,139	20.06	15.79
Analysis/Documentation	1,008	0.77	0.55
Appeals/Litigation-Sales	253	0.19	0.55
Other Resource Support	9,589	7.36	5.47
Brush Disposal Fund	13,095	10.05	5.70
Coop Road Maintenance	3,832	2.94	2.82
Depreciation			
Road Design and Construction	7,658	5.88	6.57
Purchaser Road Credits	5,974	4.58	5.90
Appeals/Litigation-Roads	0	0	0
Total Timber Sale Direct Expenses	97,004	74.45	61.84
Timber Program Direct Expenses			
Annual Expenses			
Timber Planning	3,359	2.58	2.29
Transportation Planning	892	0.68	0.99
Sale Activity Pool			
Silvicultural Examinations	3,109	2.39	4.05
Depreciation			
Facilities Depreciation	163	0.13	0.21
Growth Activity Pool			
Genetic Tree Improvement	168	0.13	0.36
Appropriated Reforestation	1,335	1.02	1.35

TABLE 3--DIRECT AND INDIRECT EXPENSES AND COST PER MBF OF THE TIMBER SALE PROGRAM
for fiscal year 1991, continued

Account Description	Expense	Region-wide Cost Ratio	Service-wide Cost Ratio
	Thousand Dollars	*Cost Per MBF*	*Cost Per MBF*
Growth Activity Pool, continued			
KV Reforestation	1,514	1.16	1.10
Appropriated Stand Improvement	835	0.64	0.76
KV Stand Improvement	963	0.74	0.50
Total Timber Program Direct Expenses	12,338	9.47	11.62
Total Direct Expenses	109,342	83.92	73.46
Indirect Expenses			
Timber Sale Indirect Expenses			
Annual Expenses			
Appeals/Litigation	273	0.21	0.23
Total Timber Sale Indirect Expenses	273	0.21	0.24
Timber Program Indirect Expenses			
Annual Expenses			
General Administration-Program	10,357	7.95	7.24
Total Timber Program Indirect Expenses	10,357	7.95	7.24
Total Indirect Expenses	10,630	8.16	7.48
Total Timber Expenses	119,973	92.07	80.94
Timber Volume Harvested *(MMBF)*		1,303	8,468

Figure 7--Unit revenue, unit cost, and unit gross income, 1989-1991



The FY 1991 unit cost increases are also due, in part, to the reduction in harvest volume. The slight increase in unit revenue did not offset the more substantial increase in unit cost, resulting in decreased unit net revenue.

Table 4 ranks the National Forests by their revenues earned, gross gain/loss, and unit costs for 1990 and 1991.

Payments to States historically have been 25% of receipts (Act of May 23, 1908, 16 U.S.C. 500) and are considered by the Forest Service to be a simple redistribution of income which occurs outside of the agency's financial activity. For FY 1991, this Act was amended (PL 101-512) to guarantee a specified level of payments to States where they are affected by decisions relating to the northern spotted owl.

The FY 1991 payments are established at no less than 90 percent of the historical average annual payments to states, based on receipts collected during the period of 1988 through 1990.

Payments to States are not considered expenses and are excluded from the net revenue calculation, but are displayed on the income statement for information purposes. Figure 8 shows the relationship between revenue, expenses and payments to States.

The 1,303 million board feet of harvest material includes timber from sales designed to provide raw material to meet the region's need for wood products as well as timber from sales which are designed to achieve forest management objectives for other reasons, as outlined in Forest Plans. This represents a 24 percent harvest decrease from 1990 and a 34 percent decrease from 1989.

California's National Forests experienced a 410 thousand board foot decrease in timber harvest from the 1990 level, accounting for the substantial decrease in gross revenue.

TABLE 4--RANKING OF THE NATIONAL FORESTS BY TOTAL REVENUE, GROSS GAIN/LOSS AND COST PER MBF

for Fiscal Year 1991

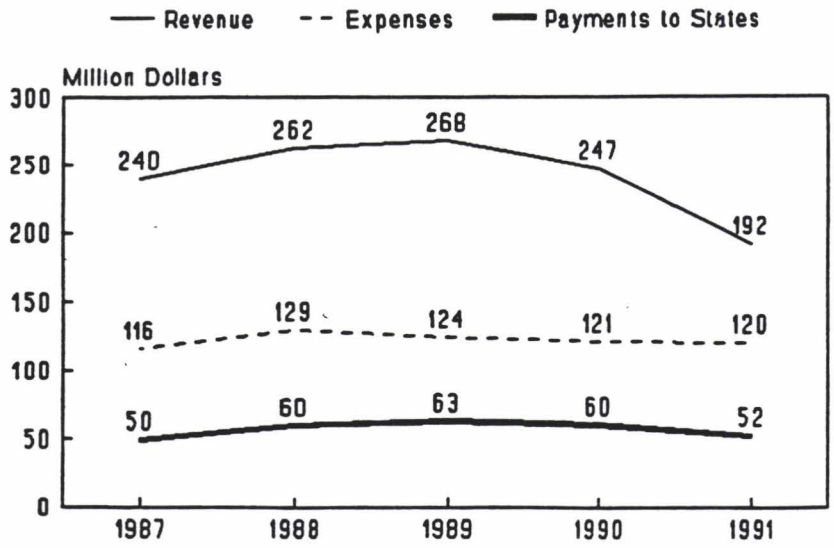
National Forest	Gross Revenue	National Forest	Gross Gain/Loss	National Forest	Cost Per MBF
	Thousand Dollars		*Thousand Dollars*		*Dollars per MBF*
Plumas	40,273	Plumas	23,795	Lassen	44.75
Eldorado	23,766	Lassen	18,022	Eldorado	53.02
Lassen	23,258	Eldorado	14,866	Six Rivers	58.00
Shasta-Trinity	21,462	Six Rivers	12,775	Plumas	67.86
Six Rivers	18,093	Shasta-Trinity	8,494	Sequoia	76.12
Tahoe	12,019	Modoc	6,009	Modoc	82.31
Stanislaus	10,997	Tahoe	3,241	Stanislaus	82.79
Sierra	10,597	Mendocino	2,725	Inyo	84.40
Klamath	10,068	Sierra	2,038	Sierra	88.26
Modoc	8,986	Stanislaus	2,005	Tahoe	92.05
Mendocino	7,029	Angeles	-125	Shasta-Trinity	98.00
Sequoia	4,888	Los Padres	-218	Klamath	119.40
San Bernardino	138	Cleveland	-224	Lake Tahoe Basin	146.19
Inyo	93	Inyo	-306	Mendocino	159.29
Lake Tahoe Basin	68	Lake Tahoe Basin	-345	San Bernardino	208.74
Angeles	17	Sequoia	-432	Angeles	702.90
Cleveland	12	San Bernardino	-646	Cleveland	872.98
Los Padres	5	Klamath	-2534	Los Padres	1,133.86
Region Total	191,773	Region Total	71,801	Region Average	92.05

TABLE 4--RANKING OF THE NATIONAL FORESTS BY TOTAL REVENUE, GROSS GAIN/LOSS AND COST PER MBF

for Fiscal Year 1990

National Forest	Gross Revenue	National Forest	Gross Gain/Loss	National Forest	Cost Per MBF
	Thousand Dollars		*Thousand Dollars*		*Dollars per MBF*
Shasta-Trinity	46,901	Shasta-Trinity	26,564	Lassen	47.11
Plumas	31,475	Lassen	21,761	Lake Tahoe Basin	48.60
Lassen	28,002	Plumas	18,340	Eldorado	49.98
Sierra	23,172	Sierra	14,076	Stanislaus	55.33
Klamath	20,156	Modoc	13,014	Sierra	58.41
Eldorado	18,914	Six Rivers	10,824	Modoc	61.45
Six Rivers	18,066	Eldorado	9,600	Plumas	63.13
Modoc	16,591	Tahoe	6,634	Tahoe	74.85
Tahoe	16,360	Mendocino	3,722	Six Rivers	81.07
Stanislaus	11,840	Stanislaus	3,309	Shasta-Trinity	83.68
Mendocino	9,269	Lake Tahoe Basin	919	Inyo	89.75
Sequoia	3,998	Klamath	159	Klamath	93.30
Lake Tahoe Basin	1,666	Cleveland	-164	Sequoia	94.24
Inyo	263	Los Padres	-230	Mendocino	96.61
San Bernardino	172	Inyo	-235	San Bernardino	215.80
Los Padres	34	Angeles	-240	Los Padres	223.73
Angeles	18	San Bernardino	-825	Cleveland	498.61
Cleveland	15	Sequoia	-1255	Angeles	928.06
Region Total	246,912	Region Total	125,973	Region Average	70.64

Figure 8--Revenue, expenses and payments to States, 1988-1991



Congressional direction to display more detailed information in the sale preparation cost category, other changes, such as the identification of NEPA compliance costs and appeals and litigation costs, have also been included. Key changes to the FY 1991 statements include:

Changes to the *Statement of Revenues and Expenses*

FY 1991 was a year of major changes to the TSPIRS *Statement of Revenues and Expenses*. These include refinements to both accounting methodology and presentation format. In 1989, the Forest Service asked Brown & Company, an independent public accounting firm, to audit TSPIRS to determine if the system conformed to generally accepted accounting principles. In addition, the General Accounting Office (GAO) audited the FY 1988 Financial Statements (audit report issued March 1991) including TSPIRS. Both audits provided similar recommendations to improve the accuracy and reliability of the TSPIRS financial statement. All of these recommended changes have been implemented in the FY 1991 statement. As a result of

1. To better match costs to the volume of timber harvested, the following changes have been implemented, providing recognition of certain expenses and revenues:

   a. KV Reforestation costs are included in the growth activity pool instead of the sale activity pool.

   b. Timber Planning and Transportation Planning are recognized as annual expenses and are no longer amortized as part of the sale activity pool.

   c. Undelivered orders are no longer included in TSPIRS costs.

   d. Catastrophic losses resulting from major fires, pest infestations, acts of God, etc., are

reflected in the financial statements.

e. Purchaser Road Credits are reported as revenue when the credit is applied against harvested timber.

2. To improve the capitalization and depreciation of the cost of roads and related structures, these expenses are no longer included in the growth activity pool. They are now part of a new cost category established for roads. Road design and construction costs associated with timber sales are now capitalized and depreciated by component. Recognized road components include the prism, surface, culverts, and bridges. Road prism costs are non-depreciable, while costs for the other components are depreciated over the following useful lives:

Surfacing	10 years
Culverts	30 years
Bridges	50 years

3. To reflect a better estimate of existing harvestable inventory, the divisor for the growth activity pool was revised. This figure, previously the "Timber Volume Over the Rotation Period" (TVORP), is now the "Average Harvest Volume Over the Rotation Period" (AHVORP). It is a 10 year rolling average of actual timber volume harvested multiplied by the average rotation period. As experience is gained in using this formula, appropriate modifications will be made to ensure conformance with generally accepted accounting principles.

4. New account codes were established to separate sale preparation costs and engineering design costs related to appeals and litigation. In addition, the codes for tracking environmental analysis and documentation costs were redefined. However, these codes were not implemented until mid-FY 1991. As a result, a substantial portion of the FY 1991 expenses attributable to these two new cost categories are still included in the Sale Preparation cost category, as in prior years. The new coding will be fully operational on all National Forests in FY 1992.

ECONOMIC INFORMATION

The *TSPIRS Economic Account* displays the long-term economic value of the FY 1991 timber harvest in the Pacific Southwest Region. Future economic benefits and costs are included, with the current year timber sale investments in the calculation of present net value (PNV). In the PNV calculation, all future costs and benefits are discounted to the base year (FY 1991) using a four percent discount rate. The total PNV for the Region is displayed in Table 5. PNV calculations for 1989 and 1990 are included to demonstrate the direction

of the Timber Sale Program. Each year's PNV is based upon that year's level of activity. More detailed information for each National Forest in Region 5 is included in Appendix C, *Economic Information by National Forest*.

A five-year rolling average of timber values is used in these calculations. Values from the 1990 Renewable Resources Assessment (RPA) report were used in the calculation of the values for the other resource areas. These values have not been adjusted for inflation. Consequently, strict comparability between years is not possible. This information is provided only to demonstrate the historical present net value and the level of timber sale activity for the Region.

The process of valuing resource costs and benefits in the Economic Account is similar to that used in developing Forest Plans. Anticipated resource production changes which would result from the FY 1991 timber harvest have been quantified and assigned monetary values, where possible. Investment costs are also estimated. Where the timber harvest would increase the production of a particular resource, such as water, but there is no demand for or means of using the additional resource, no value is assigned. The PNV calculation is based on the best information and analysis techniques available to National Forest personnel.

The "timber only" PNV includes the current and anticipated revenue and cost attributable to the FY 1991 timber harvest. This portion of the PNV is based on estimates of real market-related costs and income. The benefits for "other resources" may be based on real or simulated markets. While some of the effects of timber harvest on other resources are captured in the *Economic Account*, others cannot be assigned a monetary value. Timber sales are sometimes used to affect changes in ecological conditions to achieve a desired future condition as specified in Forest Plans. Some of the non-timber resource objectives being achieved by timber sales cannot be quantified.

Timber resource benefits continue to dominate benefits arising from other resources. These "other resources" include recreation, wildlife, fisheries, grazing, soils, and water. Only benefits and costs associated with those acres of land where timber was harvested in 1991 are displayed.

Several resources are affected by the health, vigor, and composition of forest vegetation. The diversity of wildlife species is directly related to the diversity in kind, size, age, and location of vegetation species. Similarly, visual diversity and its effect on the quality of recreation experiences is dependent on the landscape patterns created by vegetative composition. The construc-

TABLE 5--TSPIRS ECONOMIC ACCOUNT
for fiscal years 1989, 1990, and 1991[1/]

	1989	1990	1991
		Thousand Dollars	
Present Value of Benefits			
Positive Effects			
Timber	346,668	400,708	279,753
Recreation	67	298	1,610
Wildlife	1,074	1,602	995
Fisheries	14	25	56
Grazing	263	323	335
Soils	0	0	0
Water	68,799	96,884	49,082
Total Positive Effects	416,885	499,841	331,831
Negative Effects			
Timber	0	0	0
Recreation	0	0	0
Wildlife	0	0	0
Fisheries	0	0	0
Grazing	0	0	0
Soils	0	0	0
Water	0	0	0
Total Negative Effects	0	0	0
Total Present Benefits	416,885	499,841	331,831
Present Value of Costs			
Timber	148,751	182,690	147,846
Recreation	45	7	3,537
Wildlife	579	499	593
Fisheries	171	164	449
Grazing	190	437	98
Soils	47	163	98
Water	236	141	242
Roads	42,829	36,964	20,324
Total Present Costs	192,848	221,065	173,360
Present Net Value (PNV)			
PNV For Timber Only	155,088	181,054	111,583
PNV For All Resources	224,037	278,776	158,471

[1/]Fiscal years 1989 and 1990 are not corrected for inflation.

tion of new roads will increase motorized recreation opportunities while decreasing opportunities for non-motorized recreation experiences. Beneficial uses of water will be protected and no long-term effect on water quality is expected; minor short term changes may occur until disturbed soil settles and sites are revegetated. Timber sales are the primary and least cost tool for managing timber vegetation and producing the desired effects on all these resources as guided by Forest Plans.

Historical and archeological resources can be directly affected by vegetation management. Sites are identified, surveyed, protected, and sometimes, evaluated during timber sale planning. Thus, society's knowledge concerning their existence is enhanced by the timber sale program. Sites identified during timber sales are then preserved and protected for future generations.

Timber sales are designed to maintain or enhance habitat for threatened or endangered species, as well as other fish and wildlife species. Timber harvest activities may have both short-term and long-term effects on other resources. As noted, some of these may be beneficial and, being qualitative in nature, difficult to value. For example, wildlife species may move to different locations during harvest activities and return later. The important point is that while disruptions may be neither beneficial nor detrimental, they are a consequence of reaching long-term Forest Plan goals. In many cases, long-term improvements are expected in the quality of resources produced.

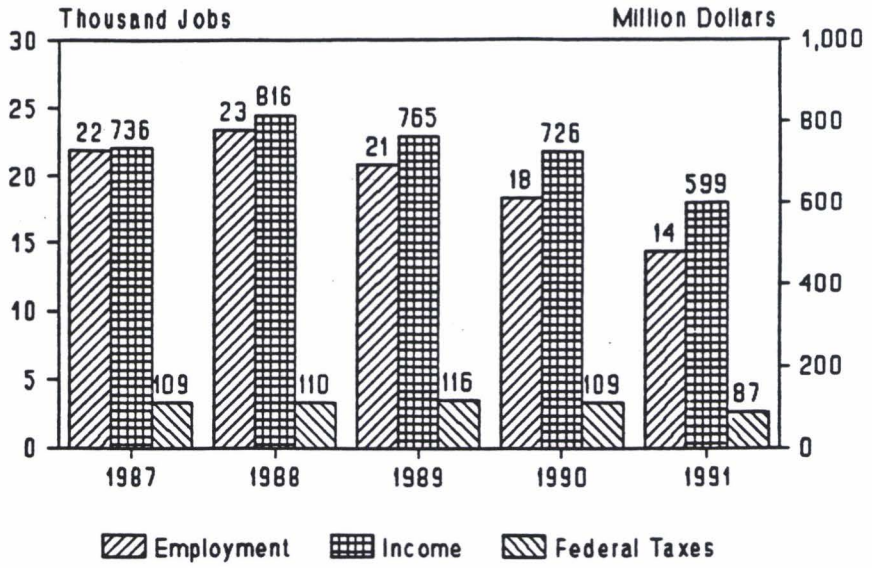
EMPLOYMENT AND PROGRAM LEVEL INFORMATION

Along with financial and economic information, TSPIRS monitors employment opportunities, other economic effects, and information that is useful in evaluating the Timber Sale Program. The *TSPIRS Employment, Income and Program Account* (Table 6) provides a compilation of this information. Additional detail for each National Forest in California is presented in Appendix D, *Employment and Program Information by National Forest*. Figure 9 shows the timber benefits to the state from the timber program.

Employment is created in local communities as a result of National Forest timber harvest. Estimates of jobs and associated income supported by timber sale programs in Region 5 during FY 1991 are presented in Table 5. An estimate of the federal income tax generated by employment-related income is also displayed.

Only the effects on local economies are considered for this analysis. Additional employment and income generated in the national economy from activities such as truck and

Figure 9--Timber benefits to the State, 1987-1991



equipment manufacturing, petroleum refining, and business services are not included. The total effect on regional or national economies is greater than the local effects given here.

The employment estimates include jobs that are directly and indirectly attributable to timber harvest, as well as those induced by increased economic activity at the local level. The local community income includes personal income, such as salaries, and other property and proprietary income, such as rent and return on capital investments. State and local income taxes are generated in addition to the federal income taxes estimated here.

The Forest's timber sale activities generated an estimated 14,327 jobs during Fiscal Year 1991. This number is approximately 22 percent lower than in 1990, again reflecting the effect of a decrease in the board feet harvested.

The employment response coefficients per million board feet (MMBF) of volume harvested averages about 11 jobs Region-wide. Approximately $458,930 in total income per MMBF of timber harvest (about $2,500 per truckload of logs) is generated. The jobs and income supported per MMBF vary among Forests due to three basic factors: (1) the variation in product distribution between softwood sawtimber, softwood roundwood, hardwood sawtimber and hardwood roundwood; (2) the value produced by these four groups; and (3) the economic activity within the impact area. Sawtimber generally results in more jobs and income per unit volume harvested than roundwood. Most Forests in

TABLE 6–TSPIRS EMPLOYMENT, INCOME AND PROGRAM ACCOUNT

for fiscal years 1989, 1990, and 1991

	1989	1990	1991
Employment and Income Information			
Total Employment (*Jobs*)	20,811	18,367	14,327
Total Income (*$000*)	764,518	725,766	599,025
Federal Income Taxes Generated (*$000*)	116,302	108,865	86,760
Timber Information			
Timber Volume Offered for Sale (*MMBF*)	1,631	1,646	1,023
Timber Volume Sold & Awarded (*MMBF*)	1,489	1,501	881
Timber Volume Harvested (*MMBF*)			
Sawtimber	1,842	1,521	1,147
Roundwood	22	0	5
Other	131	191	151
Total Volume Harvested	1,982	1,713	1,303
Total Area Harvested (*Acres*)	130,627	158,978	121,531
Free Use Fuelwood Provided (*MMBF*)	14	14	11
Nonconvertible Products Sold			
Christmas Trees (*number of trees*)	79,809	80,577	78,266
Other (*Dollars*)	20	66	90
Regeneration (*Acres treated*)	60,531	60,525	53,007
Timber Stand Improvement (*Acres treated*)	55,225	70,955	81,766
Forest Road Information			
Road Construction (*Miles*)			
Appropriated Construction	15	3	0
Purchaser Credit Construction	55	46	81
Total Construction	70	48	82
Road Reconstruction (*Miles*)			
Appropriated Reconstruction	147	125	38
Purchaser Credit Reconstruction	314	410	199
Total Reconstruction	461	535	237
Total Roads (*Miles*)	531	583	319

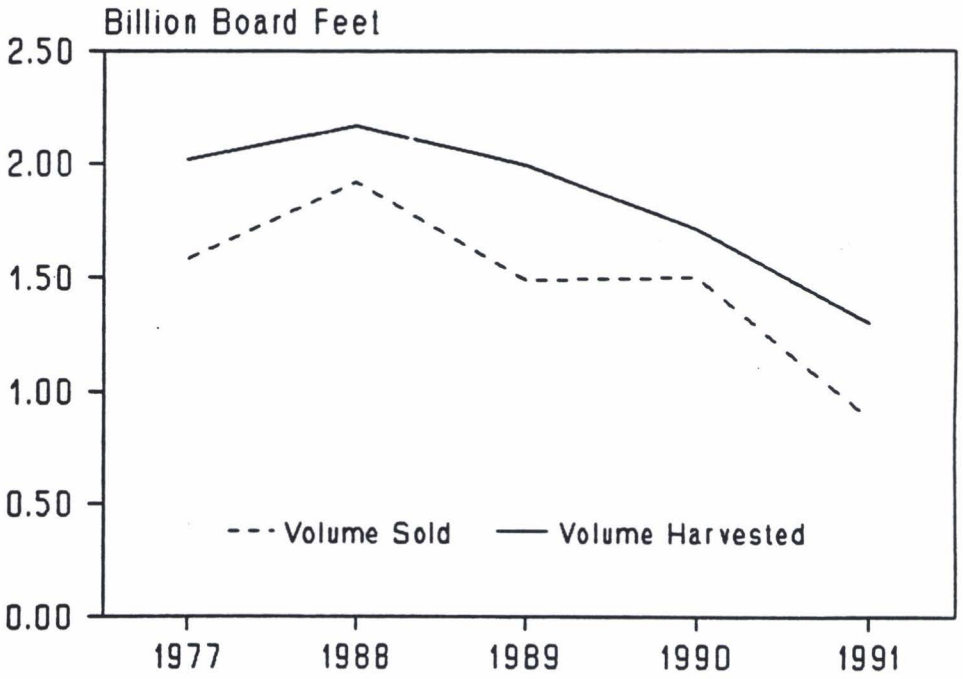
California produce a high proportion of sawtimber, thus supporting more obs per MMBF harvested. In addition, forests that harvest timber with relatively high values also tend to support more jobs and income.

The dependency of local communities on timber from the National Forest System is not easily defined and varies by community throughout the Region. Along coastal California, most sawmills and other processing facilities do not obtain all or a major part of the total raw material from National Forest System lands. Many individual loggers and processing facilities rely substantially upon National Forest timber volume for continued operation.

Figure 10 highlights the variability of the timber sold and harvested over the last 5 years. The 1991 volume sold and harvested has declined significantly from the FY 1989 and 1990 levels.

In addition to employment information, it is useful to review other program-related information to develop a perspective on the size and impact of National Forest timber sale programs. Table 6 also provides information about

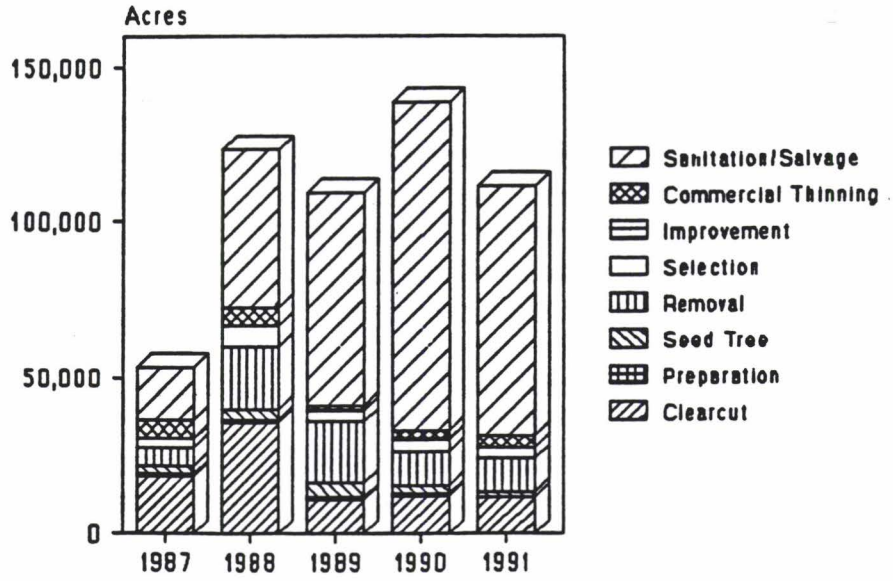
Figure 10--Annual timber offered, sold and awarded, and harvested, 1987-1991



	1977	1988	1989	1990	1991
Volume Harvested	2.02	2.17	2.00	1.71	1.30
Volume Sold	1.58	1.92	1.49	1.50	0.88

program-related accomplishments in FY 1991. Information for the National Forests is in Appendix D.

Figure 11--Acres harvested by silvicultural prescription, 1987-1991



The relationship between the volume of timber harvested and the area harvested is more complex. A disproportionate decline in harvest volume has occurred from 1989 to 1991, but the acres harvested increased in 1990. This reflects the increased use of alternative harvest methods that remove less volume per acre but treat more acres. Total harvested acres for the last 5 years, by the silvicultural prescription used, are displayed in Figure 11. The majority of acres (66 percent) were harvested using silvicultural prescriptions other than clearcutting. This represents the Forest Service's emphasis on increasing partial cutting and minimizing clearcutting.

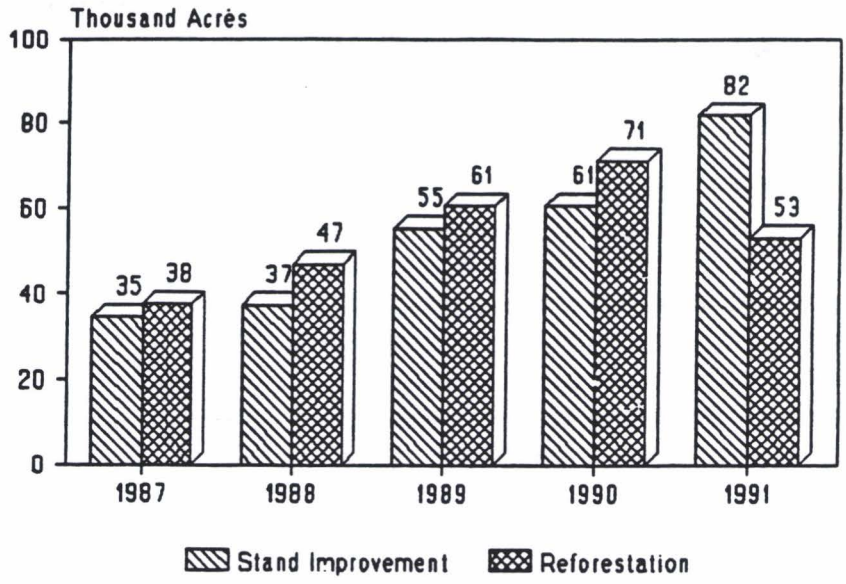
The roundwood category of volume harvested includes fuelwood which has been sold. Fuelwood sales have also declined, as a result of lower supplies of logging residues for fuelwood collection. Nonconvertible products are forest products which cannot be converted to a board foot measure, such as Christmas trees, pinyon nuts, conifer boughs, etc. The number of Christmas trees sold has remained constant while sales of other nonconvertible products has steadily increased.

As shown in Figure 12, reforestation dropped in 1991, while timber stand improvement activities have risen steadily since 1987. These trends reflect a reduction in regeneration cutting and increased emphasis on salvage due to the drought, insects and fires. Increasing investmenst are being made in young plantations and young natural stands to reduce stocking densities and control competing vegetation.

Forest road construction/reconstruction activities during 1991

were dramatically reduced from prior years. This decrease shows a trend toward the construction of fewer new roads annually on the National Forests. Many of the road miles displayed in the above table are closed after harvest activities have ceased.

Figure 12--Timber stand improvement and reforestation in the Pacific Southwest Region, 1987-1991



BELOW-COST TIMBER SALE PROGRAMS

Region 5 returned $71.8 million more than was expended on the program, 10 of the 18 National Forests in California operated programs where income exceeded expenditures, before payments to States. Eight Forests did not.

Over recent years, the interest in "below-cost" timber sale programs by the public, Congress, and Forest Service managers has increased. As a result, the Forest Service is drafting a new policy concerning below-cost timber sale programs. Public comments were solicited in April, 1991. The final policy has not been issued.

TIMBER PROGRAM COST EFFICIENCY ACTION PLAN

Since FY 1989, timber program costs Forest Service-wide have increased about 8 percent, excluding inflation. Timber program costs in the Region have decreased 2 percent during the same period. A $39.1 million decrease in road construction/reconstructioncosts over this time period was more than offset by a $57.5 million increase in sale preparation costs. Two specific cost centers within the national timber sale direct expenses led the cost increases: sale preparation and resource support. Sale preparation and resource support now consist of 55 percent and 20 percent, respectively, of all sale preparation costs nationally. In the Region, sale preparation costs decreased by 15 percent and consti-

tute 27 percent of all timber sale direct expenses. Resource support increased 23 percent between 1989 and 1991, accounting for 10 percent of all timber sale direct expenses in the Region.

The FY 1991 Appropriations language directs the Forest Service ". . . to continue efforts to control costs and improve the explanation and justification of cost increases and price assumptions for unit costs associated with the conduct of Forest Service programs. . ."

The Chief of the Forest Service developed a *Timber Program Cost Efficiency Action Plan* around three major strategies that provide the greatest potential to reduce costs. These strategies include:

- Use of annual TSPIRS information to adjust Forest timber sale programs to increase revenues and decrease costs.

- Streamlining Timber Management organizations to retain needed skills while increasing efficiencies and decreasing costs.

- Increasing Timber Sale program financial accountability to improve cost efficiency.

Specific actions are identified under each strategy. The actions are organized to gather information, develop financial analysis tools and organization models, establish baselines to measure cost improvement, and develop Regional implementation plans during FY 1992. The second year calls for the use of these analysis tools, organization models, and information in the Region to reduce Timber Program costs, improve organizational efficiencies, and increase accountability.

GLOSSARY

Associated Output - (Also induced output) A good, service, or on-site use that is incidental to the objectives of a resource activity, project, or program.

Benefits - Goods, services, or uses resulting from projects or programs. These goods and services may or may not be exchanged in the normal marketplace. Benefits to timber and minerals are often considered as "commodity" benefits (revenue), whereas benefits to recreation and wildlife are often considered to be "non-commodity" benefits.

Clearcut - A silvicultural system in which an entire stand of trees is removed over a contiguous area at one time. These areas are planted with various species of tree seedlings.

Cost Pools - A mechanism for the collection of expenditure data in categories (i.e., single-year, multi-year) for the purpose of matching costs against related revenue in the reporting year. In this report there are two types of cost pools:

The Sale Activity Pool is composed activities directly related to the preparation of timber for sale at an auction. Current actual costs for these activities are added to the pool each year and expenses are calculated based on the following formula: Sale Activity Pool Allowance = (Volume Harvested X Current Year Pool Balance)/(Volume Under Contract + Volume Harvested).

The Growth Activity Pool is composed of the following activities which represent investments in the growth of trees over a rotation period. Current actual costs for these activities are added to the pool each year and expenses are calculated based on the following formula: Growth Activity Pool Allowance = (Volume Harvested X Current Year Pool Balance)/(Average Harvest Volume Over Average Rotation Period). Average harvest volume is based on the actual volume harvested from each National Forest over the past 10 years.

Commercial Thinning - The selective cutting of trees in a stand that are of sufficient size to have value as commercial products such as posts, poles, props, fuelwood, or small diameter sawtimber. The purpose of such thinning is to increase the rate of growth and quality of the trees left standing.

Cost Efficiency - The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary

values, but are achieved at specified levels in the least cost manner. Cost efficiency is usually measured using present net value.

General Administration (GA) - Costs of line management and program support which cannot be identified with specific programs.

Generally Accepted Accounting Principles - Conventions, rules, and procedures defining accepted accounting practice, including both broad guidelines and detailed procedures. Developed by the Financial Accounting Standards Board and the Accounting Principles Board of the American Institute of Certified Public Accountants.

Harvest Administration - Includes all aspects of supervising, administering, guiding, assisting, and controlling the harvest of contracted timber volumes by timber purchasers. Activities are in compliance with provisions of the timber sale contract and are conducted to protect or enhance the environment and other forest resources. Activities include scaling, check scaling, log accountability, contract administration, inspection of operations, and contract modifications.

Improvement Cutting - The elimination or suppression of less valuable in favor of more valuable tree growth, typically in mixed uneven-aged forest. Includes thinnings.

KV (Knutson-Vandenberg Funds) - An act passed by Congress in 1930 (K-V Act) authorizing collection of funds for work on reforestation, timber stand improvement, and other resources on areas cut over by a timber sale.

Precommercial Thinning - The selective thinning of trees in a young stand to accelerate growth and improve the vigor and quality of the remaining trees and to attain a specific stocking and density in the stand. Usually the trees cut are too small to have commercial value.

Payments to States - A fund consisting of approximately 25 percent of the gross annual timber receipts received by the National Forests. This is returned to the States for roads and schools.

Preparatory Cutting - Removing trees near the end of a rotation so a to permanently open the canopy and enlarge the crowns of seed bearers, in order to improve conditions for seed production and natural generation, as typically applied in shelterwood systems.

Present Net Value (PNV) - The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices

are assigned and the total discounted costs of managing the area. For TSPIRS purposes, a discount rate of four percent is used.

Purchaser Credit - Credit earned by the timber purchaser that is applied to stumpage charges above base rates. The total amount of credit established is considered revenue. Effective purchaser credit is the amount of the total purchaser credit the purchaser can realize or apply toward stumpage charge. Ineffective purchaser credit is the amount of the total purchaser credit the purchaser cannot realize or apply toward the stumpage charges. Purchaser credit established is the value of the road as determined by the engineer's estimate and reflected in the timber sale contract.

Reforestation (also Regeneration) - Treatments and activities that help reestablish stands of trees in the forest. May include preparing the ground, controlling animals, and planting seedlings or spreading seed.

Removal Cutting - Removing trees between the seed cutting and the final cutting under a shelterwood system, so as to gradually reduce the shelter and admit more light to aid the regenerated crop and to secure further recruitment

Road Maintenance - (1) Appropriated. Road maintenance performed as a part of managing the National Forests and accomplished by using federally appropriated funds in the annual Forest Service budget. (2) Purchaser deposited or cooperative road maintenance. Funds deposited by the timber purchaser to perform road maintenance and surface replacement attributable to the purchaser's use of the roads and as defined under the terms of the timber sale contract.

Road Prism - New work, or restoration, realignment or betterment of an existing road prism, including construction staking, clearing and grubbing, excavation, placement and compaction of embankment, seeding, and other related items.

Road Surface - The development and placement of aggregate base, surfacing, paving, dust palliative treatment, ditches, dikes, guardrails, markers, signs, road closure devices, and other items related to new roads or the restoration, realignment, or betterment of existing roads.

Sale Preparation - All activities undertaken to prepare National Forest timber for sale, including development of position statements; sale area design; sale plan implementation; final package preparation; and review, appraisal, and offering the sale.

Sanitation/Salvage Cutting - The removal of dead, dying, deteriorating, or susceptible trees to prevent the spread of pest or pathogens, to promote healthy, vigorous stands, and to aid recovery of trees damaged by fire, wind, insects, fungi, or other injurious agents before the timber becomes worthless for harvesting.

Sawtimber - Trees suitable in size and quality for producing logs that can be processed into lumber.

Scaling - Volume measurement of logs.

Seed Cutting - Removing trees in a mature stand so as to effect permanent opening of its canopy and so provide conditions for securing regeneration from the seed of trees retained for that purpose.

Selection Cutting - The annual or periodic removal of trees, particularly the mature ones, individually or in small groups. The improvement of the forest is a primary consideration.

Silvicultural Examination - The process used to gather the detailed, on-site field data to determine management opportunities and direction for the timber resource within a small subdivision of a forest area, such as a stand.

Special Cutting - Removal of individual trees to reduce hazards, as may be found in campgrounds, day-use areas, or along road, or removal for other management purposes.

Timber Stand Improvement (TSI) - Noncommercial cutting and other treatments made to increase the growth and improve the quality of a timber stand. Treatments include thinning, pruning, weeding, prescribed burning, and fertilizing of established stands.

Tree Measurement - Volume measurement based on the standing tree

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

Appendix A

Financial Information by National Forest

APPENDIX A--STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991

Description	Angeles	Cleveland	Eldorado	Inyo	Klamath
			Thousands of Dollars		
Revenue					
Timber Sales	16,772	10,894	21,971,136	89,967	8,338,987
Purchaser Road Credits	0	0	598,634	0	329,362
Associated Charges	0	1,241	1,161,694	1,725	1,391,979
Interest and Penalties	0	0	34,808	1,164	8,104
Total Revenues	16,772	12,135	23,766,272	92,856	10,068,432
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	44,603	27,430	1,838,468	87,629	859,304
General Administration-Sales	16,105	43,871	608,970	58,642	973,033
Sale Activity Pool					
Sale Preparation	17,056	14,992	1,929,697	98,665	3,406,177
Analysis/Documentation	0	0	0	0	0
Appeals/Litigation-Sales	0	0	0	0	2,391
Other Resource Support	4,907	11,628	1,050,419	23,408	1,342,333
Brush Disposal Fund	8	965	774,550	5,903	2,284,592
Co-Op Road Maintenance	6	0	551,932	8,521	461,079
Depreciation					
Road Design and Construction	0	0	427,124	16,800	881,535
Purchaser Road Credits	0	0	654,070	28,100	528,574
Appeals/Litigation-Roads	0	0	0	0	0
Total Timber Sale Direct Expenses	82,685	98,886	7,835,230	327,668	10,739,018
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	6,514	8,074	114,924	2,040	57,077
Transportation Planning	0	0	42,080	-7,667	152,539
Sale Activity Pool					
Silvicultural Examinations	903	31	57,504	16,546	178,527
Depreciation					
Facilities Depreciation	0	0	34,710	1,458	24,508

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Angeles	Cleveland	Eldorado	Inyo	Klamath
			Thousands of Dollars		
Growth Activity Pool					
Genetic Tree Improvement	0	0	25,781	0	2,497
Appropriated Reforestation	13,065	30,554	18,678	1,706	110,495
KV Reforestation	-72	-1,049	146,235	2,943	138,225
Appropriated Stand Improvement	11,777	39,897	34,874	1,229	56,707
KV Stand Improvement	2,203	46	102,640	2,699	70,676
Total Timber Program Direct Expenses	34,390	77,553	577,426	20,954	791,251
Total Direct Expenses	117,075	176,439	8,412,656	348,622	11,530,269
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	0	0	3,867	0	17,622
Total Timber Sale Indirect Expenses	0	0	3,867	0	17,622
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	24,208	60,139	483,549	50,236	1,054,119
Total Timber Program Indirect Expenses	24,208	60,139	483,549	50,236	1,054,119
Total Indirect Expenses	24,208	60,139	487,416	50,236	1,071,741
Total Timber Expenses	141,283	236,578	8,900,072	398,858	12,602,010
Gain/Loss Before Payments to States	-124,511	-224,443	14,866,200	-306,002	-2,533,578
Payments to States	1,861	2,574	4,789,032	22,171	4,656,321
Net Gain or Loss	-126,372	-227,017	10,077,168	-328,173	-7,189,899
Timber Volume (MBF)	201	271	167,853	4,726	105,545

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Lassen	Los Padres	Mendocino	Modoc	Six Rivers
			Thousands of Dollars		
Revenue					
Timber Sales	21,439,987	2,984	6,207,920	8,463,342	16,361,429
Purchaser Road Credits	814,407	0	471,074	224,922	774,958
Associated Charges	949,019	2,436	346,465	298,196	942,903
Interest and Penalties	54,599	0	3,679	0	14,117
Total Revenues	23,258,012	5,420	7,029,138	8,986,460	18,093,407
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	727,319	60,961	296,203	210,992	730,145
General Administration-Sales	419,337	20,856	370,356	442,559	347,281
Sale Activity Pool					
Sale Preparation	1,485,220	44,993	929,330	439,465	1,361,286
Analysis/Documentation	0	0	0	0	204,002
Appeals/Litigation-Sales	45,686	0	68,996	0	18,687
Other Resource Support	365,981	0	242,110	241,242	536,433
Brush Disposal Fund	731,748	19	613,213	238,423	1,134,507
Co-Op Road Maintenance	167,266	2,241	58,062	82,250	256,050
Depreciation					
Road Design and Construction	166,119	0	471,193	366,209	-17,823
Purchaser Road Credits	123,697	0	555,818	275,539	10,262
Appeals/Litigation-Roads	0	0	0	0	0
Total Timber Sale Direct Expenses	4,232,373	129,070	3,605,281	2,296,679	4,580,830
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	364,983	39,726	34,580	25,269	30,701
Transportation Planning	7,285	0	30,805	26,744	-277
Sale Activity Pool					
Silvicultural Examinations	127,137	0	29,908	156,795	168,613
Depreciation					
Facilities Depreciation	52	0	5,097	-7	3,622

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Lassen	Los Padres	Mendocino	Modoc	Six Rivers
			Thousands of Dollars		
Growth Activity Pool					
Genetic Tree Improvement	1,633	0	3,218	980	3,799
Appropriated Reforestation	18,292	42,476	20,359	25,816	56,550
KV Reforestation	73,362	-3	27,267	38,201	113,253
Appropriated Stand Improvement	23,350	98	10,104	17,133	42,016
KV Stand Improvement	53,165	0	18,988	42,769	39,115
Total Timber Program Direct Expenses	669,259	82,297	180,326	333,700	457,392
Total Direct Expenses	4,901,632	211,367	3,785,607	2,630,379	5,038,222
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	9,981	0	0	0	32,425
Total Timber Sale Indirect Expenses	9,981	0	0	0	32,425
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	324,037	12,004	518,854	346,739	247,684
Total Timber Program Indirect Expenses	324,037	12,004	518,854	346,739	247,684
Total Indirect Expenses	334,018	12,004	518,854	346,739	280,109
Total Timber Expenses	5,235,650	223,371	4,304,461	2,977,118	5,318,331
Gain/Loss Before Payments to States	18,022,362	-217,951	2,724,677	6,009,342	12,775,076
Payments to States	6,790,451	1,146	2,988,455	3,203,987	5,286,945
Net Gain or Loss	11,231,911	-219,097	-263,778	2,805,355	7,488,131
Timber Volume (MBF)	116,986	197	27,023	36,171	91,701

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra
			Thousands of Dollars		
Revenue					
Timber Sales	34,768,750	128,594	3,385,152	18,234,205	8,916,844
Purchaser Road Credits	2,556,919	0	302,458	1,491,542	638,443
Associated Charges	2,921,913	7,698	1,195,193	1,727,895	1,016,410
Interest and Penalties	25,802	1,892	4,980	8,334	25,647
Total Revenues	40,273,384	138,184	4,887,783	21,461,976	10,597,344
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	2,041,699	150,769	289,736	1,276,106	939,005
General Administration-Sales	1,134,038	75,087	1,016,237	843,345	820,528
Sale Activity Pool					
Sale Preparation	3,695,503	324,688	1,234,642	2,460,362	2,122,236
Analysis/Documentation	662,379	0	0	141,714	0
Appeals/Litigation-Sales	54,101	0	16,272	17,475	0
Other Resource Support	1,555,108	39,358	695,447	935,462	875,217
Brush Disposal Fund	2,224,588	3,193	336,649	2,013,355	733,555
Co-Op Road Maintenance	431,268	20,599	129,862	566,809	542,481
Depreciation					
Road Design and Construction	895,723	0	455,580	913,355	1,269,170
Purchaser Road Credits	1,234,191	0	197	1,131,390	467,186
Appeals/Litigation-Roads	0	0	48	0	0
Total Timber Sale Direct Expenses	13,928,598	613,694	4,174,670	10,299,373	7,769,378
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	325,641	4,835	60,771	227,888	-7,369
Transportation Planning	93,305	0	-3,875	614,652	57,521
Sale Activity Pool					
Silvicultural Examinations	1,111,244	9,102	73,501	136,254	169,763
Depreciation					
Facilities Depreciation	7,926	1,039	9,813	30,645	6,990

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra
			Thousands of Dollars		
Growth Activity Pool					
Genetic Tree Improvement	1,920	0	973	3,411	971
Appropriated Reforestation	88,769	38,873	50,843	144,738	32,935
KV Reforestation	177,410	3,770	53,341	221,666	67,604
Appropriated Stand Improvement	44,833	62,357	30,112	66,979	22,695
KV Stand Improvement	169,195	6,872	34,816	62,433	51,952
Total Timber Program Direct Expenses	2,020,243	126,848	310,295	1,508,666	403,062
Total Direct Expenses	15,948,841	740,542	4,484,965	11,808,039	8,172,440
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	116,917	8,329	74,199	0	0
Total Timber Sale Indirect Expenses	116,917	8,329	74,199	0	0
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	412,659	35,775	761,022	1,159,849	386,841
Total Timber Program Indirect Expenses	412,659	35,775	761,022	1,159,849	386,841
Total Indirect Expenses	529,576	44,104	835,221	1,159,849	386,841
Total Timber Expenses	16,478,417	784,646	5,320,186	12,967,888	8,559,281
Gain/Loss Before Payments to States	23,794,967	-646,462	-432,403	8,494,088	2,038,063
Payments to State	8,097,785	31,123	812,422	8,141,650	2,884,412
Net Gain or Loss	15,697,182	-677,585	-1,244,825	352,438	-846,349
Timber Volume (MBF)	242,818	3,759	69,892	132,327	96,976

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Stanislaus	Tahoe	Lake Tahoe Basin	Regional Office	Region Total
			Thousands of Dollars		
Revenue					
Timber Sales	9,117,968	10,672,203	50,005	0	168,177,139
Purchaser Road Credits	512,448	310,621	0	0	9,025,788
Associated Charges	1,366,196	1,001,841	13,639	0	14,346,443
Interest and Penalties	733	34,808	4,691	0	223,358
Total Revenue	10,997,345	12,019,473	68,335	0	191,772,728
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	1,275,262	801,424	60,697	3,798,229	15,515,981
General Administration-Sales	911,124	908,248	92,543	4,838,592	13,940,752
Sale Activity Pool					
Sale Preparation	2,093,729	2,666,257	125,309	1,689,190	26,138,797
Analysis/Documentation	0	0	0	0	1,008,095
Appeals/Litigation-Sales	18,380	10,760	441	0	253,189
Other Resource Support	643,508	938,583	34,597	53,319	9,589,060
Brush Disposal Fund	1,115,565	734,319	7,856	142,031	13,095,039
Co-Op Road Maintenance	310,655	242,425	188	0	3,831,694
Depreciation					
Road Design and Construction	1,037,296	755,566	0	20,069	7,657,916
Purchaser Road Credits	438,168	526,674	0	0	5,973,866
Appeals/Litigation-Roads	0	0	0	0	48
Total Timber Sale Direct Expenses	7,843,687	7,584,256	321,631	10,541,430	97,004,437
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	406,906	243,315	0	1,413,441	3,359,316
Transportation Planning	-113,775	14,371	-26	-21,784	891,898
Sale Activity Pool					
Silvicultural Examinations	57,860	102,097	113	712,608	3,108,506
Depreciation					
Facilities Depreciation	2,388	2,673	0	32,372	163,286

APPENDIX A–STATEMENT OF TIMBER SALE REVENUES AND EXPENSES, BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Stanislaus	Tahoe	Lake Tahoe Basin	Regional Office	Region Total
			Thousands of Dollars		
Growth Activity Pool					
Genetic Tree Improvement	1,859	13,691	0	106,896	167,629
Appropriated Reforestation	75,316	60,480	518	504,280	1,334,743
KV Reforestation	119,654	89,766	43,979	198,142	1,513,694
Appropriated Stand Improvement	32,377	39,879	19,292	279,704	835,413
KV Stand Improvement	45,189	40,991	15,601	203,680	963,030
Total Timber Program Direct Expenses	627,774	607,263	79,477	3,429,339	12,337,515
Total Direct Expenses	8,471,461	8,191,519	401,108	13,970,769	109,341,952
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	4,576	4,760	0	0	272,676
Total Timber Sale Indirect Expenses	4,576	4,760	0	0	272,676
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	516,299	582,149	12,608	3,367,975	10,356,746
Total Timber Program Indirect Expenses	516,299	582,149	12,608	3,367,975	10,356,746
Total Indirect Expenses	520,875	586,909	12,608	3,367,975	10,629,422
Total Timber Expenses	8,992,336	8,778,428	413,716	17,338,744	119,971,374
Gain/Loss Before Payments to States	2,005,009	3,241,045	-345,381	-17,338,744	71,801,354
Payments to States	1,846,330	2,610,294	9,175	0	52,176,134
Net Gain or Loss	158,679	630,751	-354,556	-17,338,744	19,625,220
Timber Volume (MBF)	108,620	95,368	2,830	0	1,303,264

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

Appendix B

Unit Value Information by National Forest

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991

Description	Angeles	Cleveland	Eldorado	Inyo	Klamath
			Dollars per MBF		
Revenue					
Timber Sales	83.44	40.20	130.90	19.04	79.01
Purchaser Road Credits	0.00	0.00	3.57	0.00	3.12
Associated Charges	0.00	4.58	6.92	0.37	13.19
Interest and Penalties	0.00	0.00	0.21	0.25	0.08
Total Revenues	83.44	44.78	141.59	19.65	95.39
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	221.91	101.22	10.95	18.54	8.14
General Administration-Sales	80.12	161.89	3.63	12.41	9.22
Sale Activity Pool					
Sale Preparation	84.86	55.32	11.50	20.88	32.27
Analysis/Documentation	0.00	0.00	0.00	0.00	0.00
Appeals/Litigation-Sales	0.00	0.00	0.00	0.00	0.02
Other Resource Support	24.41	42.91	6.26	4.95	12.72
Brush Disposal Fund	0.04	3.56	4.61	1.25	21.65
Co-Op Road Maintenance	0.03	0.00	3.29	1.80	4.37
Depreciation					
Road Design and Construction	0.00	0.00	2.54	3.55	8.35
Purchaser Road Credits	0.00	0.00	3.90	5.95	5.01
Appeals/Litigation-Roads	0.00	0.00	0.00	0.00	0.00
Total Timber Sale Direct Expenses	411.37	364.89	46.68	69.33	101.75
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	32.41	29.79	0.68	0.43	0.54
Transportation Planning	0.00	0.00	0.25	-1.62	1.45
Sale Activity Pool					
Silvicultural Examinations	4.49	0.11	0.34	3.50	1.69
Depreciation					
Facilities Depreciation	0.00	0.00	0.21	0.31	0.23

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Angeles	Cleveland	Eldorado	Inyo	Klamath
			Dollars per MBF		
Growth Activity Pool					
Genetic Tree Improvement	0.00	0.00	0.15	0.00	0.02
Appropriated Reforestation	65.00	112.75	0.11	0.36	1.05
KV Reforestation	-0.36	-3.87	0.87	0.62	1.31
Appropriated Stand Improvement	58.59	147.22	0.21	0.26	0.54
KV Stand Improvement	10.96	0.17	0.61	0.57	0.67
Total Timber Program Direct Expenses	171.09	286.17	3.44	4.43	7.50
Total Direct Expenses	582.46	651.07	50.12	73.77	109.25
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	0.00	0.00	0.02	0.00	0.17
Total Timber Sale Indirect Expenses	0.00	0.00	0.02	0.00	0.17
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	120.44	221.92	2.88	10.63	9.99
Total Timber Program Indirect Expenses	120.44	221.92	2.88	10.63	9.99
Total Indirect Expenses	120.44	221.92	2.90	10.63	10.15
Total Timber Expenses	702.90	872.98	53.02	84.40	119.40
Gain/Loss Before Payments to State	-619.46	-828.20	88.57	-64.75	-24.00
Payments to State	9.26	9.50	28.53	4.69	44.12
Net Gain or Loss	-628.72	-837.70	60.04	-69.44	-68.12
Timber Volume (MBF)	201	271	167,853	4,726	105,545

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Lassen	Los Padres	Mendocino	Modoc	Six Rivers
			Dollars per MBF		
Revenue					
Timber Sales	183.27	15.15	229.73	233.98	178.42
Purchaser Road Credits	6.96	0.00	17.43	6.22	8.45
Associated Charges	8.11	12.37	12.82	8.24	10.28
Interest and Penalties	0.47	0.00	0.14	0.00	0.15
Total Revenues	198.81	27.51	260.12	248.44	197.31
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	6.22	309.45	10.96	5.83	7.96
General Administration-Sales	3.58	105.87	13.71	12.24	3.79
Sale Activity Pool					
Sale Preparation	12.70	228.39	34.39	12.15	14.84
Analysis/Documentation	0.00	0.00	0.00	0.00	2.22
Appeals/Litigation-Sales	0.39	0.00	2.55	0.00	0.20
Other Resource Support	3.13	0.00	8.96	6.67	5.85
Brush Disposal Fund	6.26	0.10	22.69	6.59	12.37
Co-Op Road Maintenance	1.43	11.38	2.15	2.27	2.79
Depreciation					
Road Design and Construction	1.42	0.00	17.44	10.12	-0.19
Purchaser Road Credits	1.06	0.00	20.57	7.62	0.11
Appeals/Litigation-Roads	0.00	0.00	0.00	0.00	0.00
Total Timber Sale Direct Expenses	36.18	655.18	133.42	63.50	49.95
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	3.12	201.65	1.28	0.70	0.33
Transportation Planning	0.06	0.00	1.14	0.74	0.00
Sale Activity Pool					
Silvicultural Examinations	1.09	0.00	1.11	4.33	1.84
Depreciation					
Facilities Depreciation	0.00	0.00	0.19	0.00	0.04

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Lassen	Los Padres	Mendocino	Modoc	Six Rivers
			Dollars per MBF		
Growth Activity Pool					
Genetic Tree Improvement	0.01	0.00	0.12	0.03	0.04
Appropriated Reforestation	0.16	215.61	0.75	0.71	0.62
KV Reforestation	0.63	-0.02	1.01	1.06	1.24
Appropriated Stand Improvement	0.20	0.50	0.37	0.47	0.46
KV Stand Improvement	0.45	0.00	0.70	1.18	0.43
Total Timber Program Direct Expenses	5.72	417.75	6.67	9.23	4.99
Total Direct Expenses	41.90	1,072.93	140.09	72.72	54.94
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	0.09	0.00	0.00	0.00	0.35
Total Timber Sale Indirect Expenses	0.09	0.00	0.00	0.00	0.35
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	2.77	60.93	19.20	9.59	2.70
Total Timber Program Indirect Expenses	2.77	60.93	19.20	9.59	2.70
Total Indirect Expenses	2.86	60.93	19.20	9.59	3.05
Total Timber Expenses	44.75	1,133.86	159.29	82.31	58.00
Gain/Loss Before Payments to State	154.06	-1,106.35	100.83	166.14	139.31
Payments to State	58.04	5.82	110.59	88.58	57.65
Net Gain or Loss	96.01	-1,112.17	-9.76	77.56	81.66
Timber Volume (MBF)	116,986	197	27,023	36,171	91,701

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra
			Dollars per MBF		
Revenue					
Timber Sales	143.19	34.21	48.43	137.80	91.95
Purchaser Road Credits	10.53	0.00	4.33	11.27	6.58
Associated Charges	12.03	2.05	17.10	13.06	10.48
Interest and Penalties	0.11	0.50	0.07	0.06	0.26
Total Revenues	165.86	36.76	69.93	162.19	109.28
Direct Expenses					
Timber Sale Direct Expenses					
Annual Expenses					
Harvest Administration	8.41	40.11	4.15	9.64	9.68
General Administration-Sales	4.67	19.98	14.54	6.37	8.46
Sale Activity Pool					
Sale Preparation	15.22	86.38	17.66	18.59	21.88
Analysis/Documentation	2.73	0.00	0.00	1.07	0.00
Appeals/Litigation-Sales	0.22	0.00	0.23	0.13	0.00
Other Resource Support	6.40	10.47	9.95	7.07	9.03
Brush Disposal Fund	9.16	0.85	4.82	15.21	7.56
Co-Op Road Maintenance	1.78	5.48	1.86	4.28	5.59
Depreciation					
Road Design and Construction	3.69	0.00	6.52	6.90	13.09
Purchaser Road Credits	5.08	0.00	0.00	8.55	4.82
Appeals/Litigation-Roads	0.00	0.00	0.00	0.00	0.00
Total Timber Sale Direct Expenses	57.36	163.26	59.73	77.83	80.12
Timber Program Direct Expenses					
Annual Expenses					
Timber Planning	1.34	1.29	0.87	1.72	-0.08
Transportation Planning	0.38	0.00	-0.06	4.64	0.59
Sale Activity Pool					
Silvicultural Examinations	4.58	2.42	1.05	1.03	1.75
Depreciation					
Facilities Depreciation	0.03	0.28	0.14	0.23	0.07

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra
			Dollars per MBF		
Growth Activity Pool					
Genetic Tree Improvement	0.01	0.00	0.01	0.03	0.01
Appropriated Reforestation	0.37	10.34	0.73	1.09	0.34
KV Reforestation	0.73	1.00	0.76	1.68	0.70
Appropriated Stand Improvement	0.18	16.59	0.43	0.51	0.23
KV Stand Improvement	0.70	1.83	0.50	0.47	0.54
Total Timber Program Direct Expenses	8.32	33.75	4.44	11.40	4.16
Total Direct Expenses	65.68	197.01	64.17	89.23	84.27
Indirect Expenses					
Timber Sale Indirect Expenses					
Annual Expenses					
Appeals/Litigation	0.48	2.22	1.06	0.00	0.00
Total Timber Sale Indirect Expenses	0.48	2.22	1.06	0.00	0.00
Timber Program Indirect Expenses					
Annual Expenses					
General Administration-Program	1.70	9.52	10.89	8.77	3.99
Total Timber Program Indirect Expenses	1.70	9.52	10.89	8.77	3.99
Total Indirect Expenses	2.18	11.73	11.95	8.77	3.99
Total Timber Expenses	67.86	208.74	76.12	98.00	88.26
Gain/Loss Before Payments to State	98.00	-171.98	-6.19	64.19	21.02
Payments to State	33.35	8.28	11.62	61.53	29.74
Net Gain or Loss	64.65	-180.26	-17.81	2.66	-8.73
Timber Volume (MBF)	242,818	3,759	69,892	132,327	96,976

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Stanislaus	Tahoe	Lake Tahoe Basin	Region Total
	Dollars per MBF			
Revenue				
Timber Sales	83.94	111.91	17.67	129.04
Purchaser Road Credits	4.72	3.26	0.00	6.93
Associated Charges	12.58	10.51	4.82	11.01
Interest and Penalties	0.01	0.36	1.66	0.17
Total Revenues	101.25	126.03	24.15	147.15
Direct Expenses				
Timber Sale Direct Expenses				
Annual Expenses				
Harvest Administration	11.74	8.40	21.45	11.91
General Administration-Sales	8.39	9.52	32.70	10.70
Sale Activity Pool				
Sale Preparation	19.28	27.96	44.28	20.06
Analysis/Documentation	0.00	0.00	0.00	0.77
Appeals/Litigation-Sales	0.17	0.11	0.16	0.19
Other Resource Support	5.92	9.84	12.23	7.36
Brush Disposal Fund	10.27	7.70	2.78	10.05
Co-Op Road Maintenance	2.86	2.54	0.07	2.94
Depreciation				
Road Design and Construction	9.55	7.92	0.00	5.88
Purchaser Road Credits	4.03	5.52	0.00	4.58
Appeals/Litigation-Roads	0.00	0.00	0.00	0.00
Total Timber Sale Direct Expenses	72.21	79.53	113.65	74.43
Timber Program Direct Expenses				
Annual Expenses				
Timber Planning	3.75	2.55	0.00	2.58
Transportation Planning	-1.05	0.15	-0.01	0.68
Sale Activity Pool				
Silvicultural Examinations	0.53	1.07	0.04	2.39
Depreciation				
Facilities Depreciation	0.02	0.03	0.00	0.13

APPENDIX B--UNIT VALUE INFORMATION BY NATIONAL FOREST
for fiscal year 1991, continued

Description	Stanislaus	Tahoe	Lake Tahoe Basin	Region Total
	Dollars per MBF			
Growth Activity Pool				
Genetic Tree Improvement	0.02	0.14	0.00	0.13
Appropriated Reforestation	0.69	0.63	0.18	1.02
KV Reforestation	1.10	0.94	15.54	1.16
Appropriated Stand Improvement	0.30	0.42	6.82	0.64
KV Stand Improvement	0.42	0.43	5.51	0.74
Total Timber Program Direct Expenses	5.78	6.37	28.08	9.47
Total Direct Expenses	77.99	85.89	141.73	83.90
Indirect Expenses				
Timber Sale Indirect Expenses				
Annual Expenses				
Appeals/Litigation	0.04	0.05	0.00	0.21
Total Timber Sale Indirect Expenses	0.04	0.05	0.00	0.21
Timber Program Indirect Expenses				
Annual Expenses				
General Administration-Program	4.75	6.10	4.46	7.95
Total Timber Program Indirect Expenses	4.75	6.10	4.46	7.95
Total Indirect Expenses	4.80	6.15	4.46	8.16
Total Timber Expenses	82.79	92.05	146.19	92.05
Gain/Loss Before Payments to State	18.46	33.98	-122.04	55.09
Payments to State	17.00	27.37	3.24	40.03
Net Gain or Loss	1.46	6.61	-125.28	15.06
Timber Volume (MBF)	108,620	95,368	2,830	1,303,264

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

Appendix C

Economic Information by National Forest

APPENDIX C–ECONOMIC INFORMATION BY NATIONAL FOREST[1/]
for fiscal year 1991

Description	Angeles	Cleveland	Eldorado	Inyo	Klamath
			Thousands of 1991 Dollars		
Present Value of Benefits					
Positive Effects					
Timber	268	12	28,886	238	11,443
Recreation	281	950	0		
Wildlife	12	0	33		60
Fisheries	0		0		
Grazing	0		13		27
Soils	0		0		
Water	0		43,378		244
Total Positive Effects	561	962	72,310	238	11,774
Negative Effects					
Timber	0	0	0	0	0
Recreation	0	0	0	0	0
Wildlife	0	0	0	0	0
Fisheries	0	0	0	0	0
Grazing	0	0	0	0	0
Soils	0	0	0	0	0
Water	0	0	0	0	0
Total Negative Effects	0	0	0	0	0
Total Present Benefits	561	962	72,310	238	11,774
Present Value of Costs					
Timber	254	237	13,545	470	11,002
Recreation	1	38	2,102	34	
Wildlife	0		18		0
Fisheries	0	0	46		
Grazing	0		8		11
Soils	0		17		
Water	0		0	0	
Roads	0	0	1		2,901
Total Present Costs	255	275	15,737	504	13,915
Present Net Value (PNV)					
PNV for Timber Only	14	-224	15,340	-232	-2,461
PNV for All Resources	306	687	56,573	-266	-2,141

[1/]Missing values represent information that either cannot be quantified or is not available.

APPENDIX C--ECONOMIC INFORMATION BY NATIONAL FOREST[1/]
for fiscal year 1991, continued

Description	Lake Tahoe Basin	Lassen	Los Padres	Mendocino	Modoc
		Thousands of 1991 Dollars			
Present Value of Benefits					
Positive Effects					
Timber	68	50,869	0	8,180	9,564
Recreation	17			0	
Wildlife	1	92		10	19
Fisheries	0	56		0	
Grazing	0			0	11
Soils	0			0	
Water	0	226		148	
Total Positive Effects	86	51,243	0	8,190	9,742
Negative Effects					
Timber	0	0	0	0	0
Recreation	0	0	0	0	0
Wildlife	0	0	0	0	0
Fisheries	0	0	0	0	0
Grazing	0	0	0	0	0
Soils	0	C	0	0	0
Water	0	0	0	0	0
Total Negative Effects	0	0	0	0	0
Total Present Benefits	86	51,243	0	8,190	9,742
Present Value of Costs					
Timber	794	13,124	0	3,340	2,608
Recreation	12				1,219
Wildlife	0	109			0
Fisheries		24			0
Grazing				0	0
Soils	41				35
Water		0			0
Roads		1,708		760	0
Total Present Costs	806	14,965	0	4,100	3,868
Present Net Value (PNV)					
PNV for Timber Only	-726	36,037	0	4,080	6,956
PNV for All Resources	-720	36,278	0	4,090	5,874

[1/]Missing values represent information that either cannot be quantified or is not available.

APPENDIX C--ECONOMIC INFORMATION BY NATIONAL FOREST[1/]
for fiscal year 1991, continued

Description	Plumas	San Bernardino	Shasta-Sequoia	Trinity	Sierra
		Thousands of 1991 Dollars			
Present Value of Benefits					
Positive Effects					
Timber	68,627	247	6,623	25,001	11,302
Recreation			362		
Wildlife		115		646	
Fisheries					
Grazing	223		32	8	
Soils					
Water	907		1,608	998	949
Total Positive Effects	69,757	362	8,626	26,652	12,251
Negative Effects					
Timber	0	0	0	0	0
Recreation	0	0	0	0	0
Wildlife	0	0	0	0	0
Fisheries	0	0	0	0	0
Grazing	0	0	0	0	0
Soils	0	0	0	0	0
Water	0	0	0	0	0
Total Negative Effects	0	0	0	0	0
Total Present Benefits	69,757	362	8,626	26,652	12,251
Present Value of Costs					
Timber	35,918	1,003	5,097	19,033	8,614
Recreation			6		114
Wildlife		0	0	0	46
Fisheries					52
Grazing	202		21	8	2
Soils					35
Water				0	
Roads	3,635	24	2,328	570[2/]	2,949
Total Present Costs	39,755	1,027	7,452	19,611	11,812
Present Net Value (PNV)					
PNV for Timber Only	29,074	-780	-802	5,398	-261
PNV for All Resources	30,002	-666	1,174	7,041	439

[1/]Missing values represent information that either cannot be quantified or is not available.

[2/]Water costs are included with soils.

APPENDIX C--ECONOMIC INFORMATION BY NATIONAL FOREST[1/]
for fiscal year 1991, continued

Description	Six Rivers	Stanislaus	Tahoe	Region Total
		Thousands of 1991 Dollars		
Present Value of Benefits				
Positive Effects				
Timber	18,510	11,454	28,461	279,753
Recreation	0			1,610
Wildlife	0	7	0	995
Fisheries	0		0	56
Grazing	2	11	8	335
Soils	0		0	0
Water	0	175	449	49,082
Total Positive Effects	18,512	11,647	28,918	331,831
Negative Effects				
Timber	0	0	0	0
Recreation	0	0	0	0
Wildlife	0	0	0	0
Fisheries	0	0	0	0
Grazing	0	0	0	0
Soils	0	0	0	0
Water	0	0	0	0
Total Negative Effects	0	0	0	0
Total Present Benefits	18,512	11,647	28,918	331,831
Present Value of Costs				
Timber	4,875	10,514	17,418	147,846
Recreation	12			3,537
Wildlife	70		350	593
Fisheries	285		42	449
Grazing	2	11	6	271
Soils			6	98
Water	120,240		40	242
Roads	1,638	2,231	1,578	20,324
Total Present Costs	7,083	12,756	19,440	173,360
Present Net Value (PNV)				
PNV for Timber Only	11,997	-1,291	9,465	111,583
PNV for All Resources	11,430	-1,109	9,478	158,471

[1/]Missing values represent information that either cannot be quantified or is not available.

Timber Sale Program Annual Report

Fiscal Year 1991

USDA Forest Service
Pacific Southwest Region

Appendix D

Employment and Program Information by National Forest

APPENDIX D--EMPLOYMENT AND PROGRAM INFORMATION BY NATIONAL FOREST

for fiscal year 1991

Description	Units	Angeles	Cleveland	Eldorado	Inyo	Klamath
Employment and income information						
Total Employment	*Jobs*	2	5	2,020	20	1,055
Total Income	*$000*	84	210	84,840	840	44,310
Fed Income Tax Generated	*$000*	13	32	12,726	126	6,646
Timber information						
Volume Offered	*MMBF*	0.2	0.3	162.5	9.5	58.6
Volume Sold & Awarded	*MMBF*	0.2	0.3	103.9	5.5	86.2
Volume Harvested	*MMBF*					
• Sawtimber		0.0	0.0	148.4	0.0	81.9
• Roundwood		0.0	0.3	0.2	0.0	0.0
• Other		0.2	0.0	19.2	4.7	23.6
Total Harvest Volume	*MMBF*	0.2	0.3	167.9	4.7	105.5
Total Area Harvested	*Acres*	245	149	13,220	0	4,568
Free Use Fuelwood	*MMBF*	0.0	0.0	0.0	0.0	0.6
Nonconvertible Products						
• Christmas Trees Sold	*Trees*	0	0	150	420	13,561
• Other	*$000*	8	1	1	1	1
Regeneration Treatment	*Acres*	86	51	1,877	473	9,523
Timber Stand Improvement	*Acres*	340	132	6,512	566	10,958
Forest road information						
Road Construction	*Miles*					
• Appropriated Construction		0	0	0	0	0
• Purchaser Credit Construction		0	0	4	0	0
Total Construction		0	0	4	0	0
Road Reconstruction	*Miles*					
• Appropriated Reconstruction		0	0	3	0	18
• Purchaser Credit Reconstruction		0	0	5	0	21
Total Reconstruction		0	0	8	0	39
Total Roads	*Miles*	0	0	12	0	39

APPENDIX D–EMPLOYMENT AND PROGRAM INFORMATION BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Units	Lake Tahoe Basin	Lassen	Los Padres	Mendocino	Modoc
Employment and Income Information						
Total Employment	*Jobs*	3	1,070	2	240	282
Total Income	*$000*	455	49,140	50	10,080	11,847
Fed Income Tax Generated	*$000*	68	7,371	10	1,512	1,777
Timber Information						
Volume Offered	*MMBF*	13.8	110.6	0.3	27.3	36.4
Volume Sold & Awarded	*MMBF*	9.4	119.5	0.3	11.1	37.2
Volume Harvested	*MMBF*					
• Sawtimber		2.1	107.0	0.0	24.0	30.7
• Roundwood		0.7	0.0	0.0	0.0	0.0
• Other		0.0	10.0	0.2	3.0	5.5
Total Harvest Volume	*MMBF*	2.8	117.0	0.2	27.0	36.2
Total Area Harvested	*Acres*	780	18,737	51	833	2,961
Free Use Fuelwood	*MMBF*	0.1	0.0	0.0	0.0	2.1
Nonconvertible Products						
• Christmas Trees Sold	*Trees*	0	23,656	0	2,875	1,407
• Other	*$000*	0	1	0	0	0
Regeneration Treatment	*Acres*	274	3,407	40	4,025	1,411
Timber Stand Improvement	*Acres*	364	5,348	180	6,598	5,526
Forest Road Information						
Road Construction	*Miles*					
• Appropriated Construction		0	0	0	0	0
• Purchaser Credit Construction		0	1	0	1	11
Total Construction	*Miles*	0	1	0	1	11
Road Reconstruction	*Miles*					
• Appropriated Reconstruction		0	0	0	0	0
• Purchaser Credit Reconstruction		0	15	0	9	16
Total Reconstruction	*Miles*	0	15	0	9	16
Total Roads	*Miles*	0	16	0	10	27

APPENDIX D–EMPLOYMENT AND PROGRAM INFORMATION BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Units	Six Rivers	Stanislaus	Tahoe	Region Total
Employment and Income Information					
Total Employment	*Jobs*	1,100	700	1,140	14,327
Total Income	*$000*	46,200	22,890	47,880	599,025
Fed Income Tax Generated	*$000*	6,930	343	7,182	86,760
Timber Information					
Volume Offered	*MMBF*	60.5	120.8	28.1	1,022.9
Volume Sold & Awarded	*MMBF*	66.4	74.5	56.6	881.2
Volume Harvested	*MMBF*				
• Sawtimber		78.0	102.8	88.7	1,146.9
• Roundwood		0.0	0.0	0.0	5.0
• Other		13.7	5.8	6.7	151.4
Total Harvest Volume	*MMBF*	91.7	108.6	95.4	1,303.3
Total Area Harvested	*Acres*	867	6,382	5,518	121,531
Free Use Fuelwood	*MMBF*	2.4	0.0	0.6	10.7
Nonconvertible Products					
• Christmas Trees Sold	*Trees*	5,875	0	1,369	78,266
• Other	*$000*	7	0	1	90
Regeneration Treatment	*Acres*	3,628	3,526	4,076	53,007
Timber Stand Improvement	*Acres*	3,634	4,387	6,571	81,766
Forest Road Information					
Road Construction	*Miles*				
• Appropriated Construction		0	0	0	0
• Purchaser Credit Construction		26	3	3	81
Total Construction	*Miles*	26	3	4	82
Road Reconstruction	*Miles*				
• Appropriated Reconstruction		0	6	0	38
• Purchaser Credit Reconstruction		1	23	13	199
Total Reconstruction	*Miles*	1	28	13	237
Total Roads	*Miles*	27	31	17	319

APPENDIX D–EMPLOYMENT AND PROGRAM INFORMATION BY NATIONAL FOREST

for fiscal year 1991, continued

Description	Units	Plumas	San Bernardino	Sequoia	Shasta-Trinity	Sierra
Employment and Income Information						
Total Employment	*Jobs*	2,900	38	840	1,750	1,160
Total Income	*$000*	121,800	1,596	35,280	72,803	48,720
Fed Income Tax Generated	*$000*	18,270	239	5,292	10,920	7,303
Timber Information						
Volume Offered	*MMBF*	120.2	2.9	85.7	102.1	83.0
Volume Sold & Awarded	*MMBF*	126.3	2.8	96.6	30.8	53.7
Volume Harvested	*MMBF*					
• Sawtimber		219.9	0.0	65.2	112.9	85.2
• Roundwood		0.0	0.0	0.0	3.7	0.0
• Other		22.9	3.8	4.7	15.7	11.8
Total Harvest Volume	*MMBF*	242.8	3.8	69.9	132.3	97.0
Total Area Harvested	*Acres*	44,031	1,007	14,155	6,622	1,405
Free Use Fuelwood	*MMBF*	1.5	0.0	0.0	3.4	0.0
Nonconvertible Products						
• Christmas Trees Sold	*Trees*	11,552	0	1,260	12,190	3,951
• Other	*$000*	1	7	1	58	0
Regeneration Treatment	*Acres*	4,490	91	2,154	10,989	2,886
Timber Stand Improvement	*Acres*	5,524	673	4,734	13,158	8,561
Forest Road Information						
Road Construction	*Miles*					
• Appropriated Construction		0	0	0	0	0
• Purchaser Credit Construction		18	0	6	2	4
Total Construction		18	0	6	2	4
Road Reconstruction	*Miles*					
• Appropriated Reconstruction		0	0	5	0	7
• Purchaser Credit Reconstruction		54	0	19	3	20
Total Reconstruction		54	0	24	3	27
Total Roads	*Miles*	72	0	30	5	31

National Forests in Region 5
USDA Forest Service

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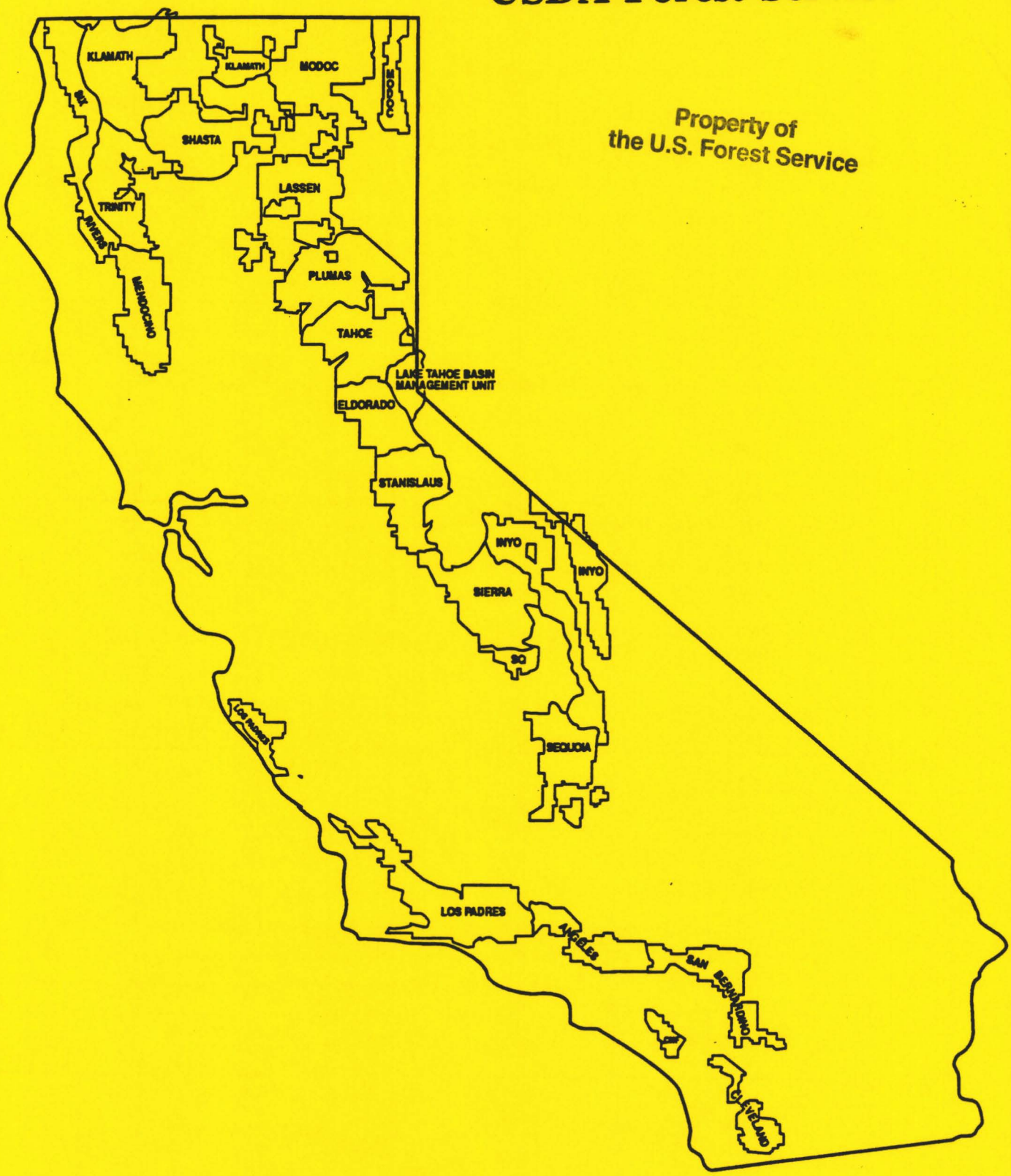

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